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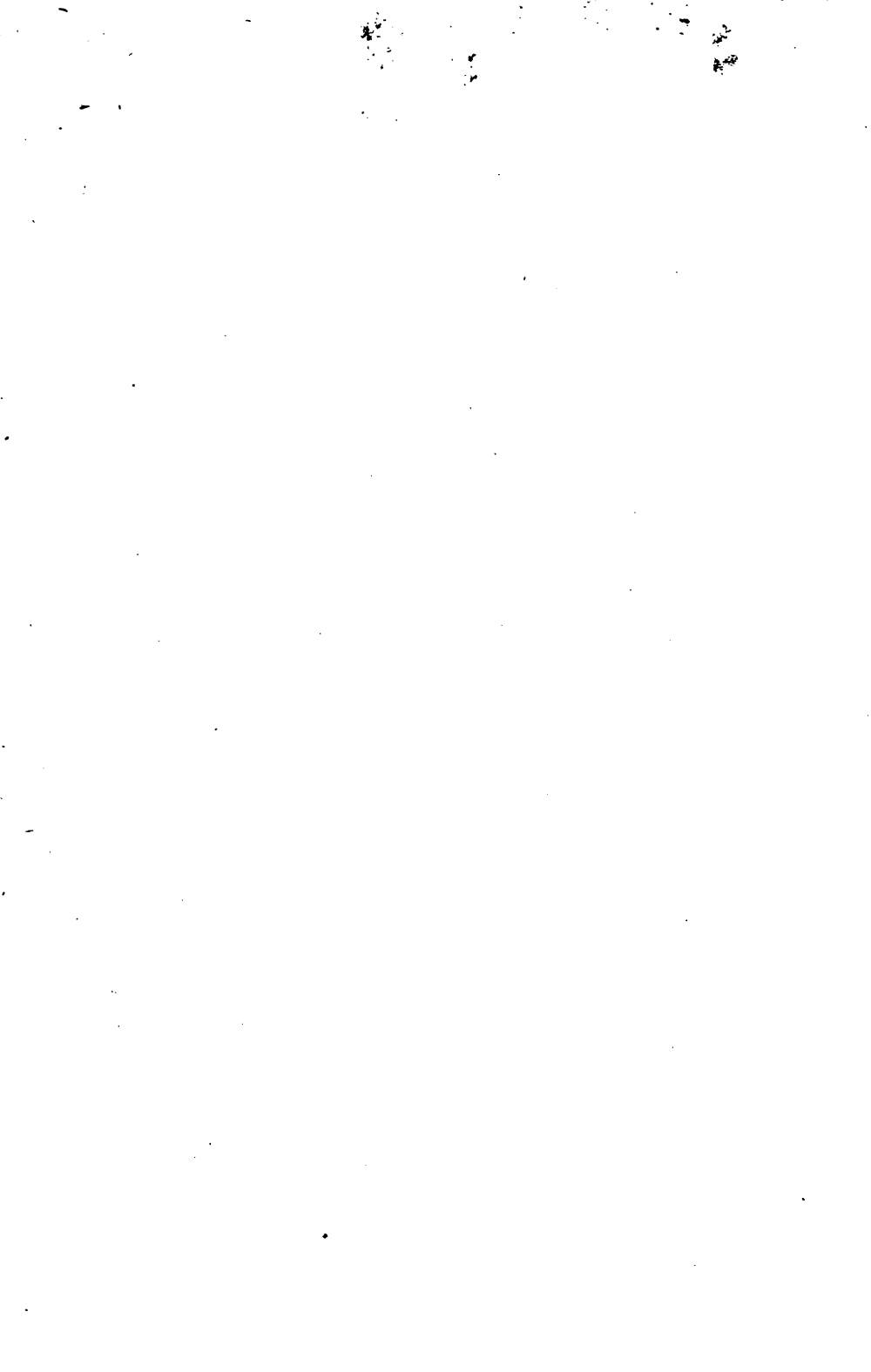
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LECTURES
ON
NASAL OBSTRUCTION

A. MARMADUKE SHEILD

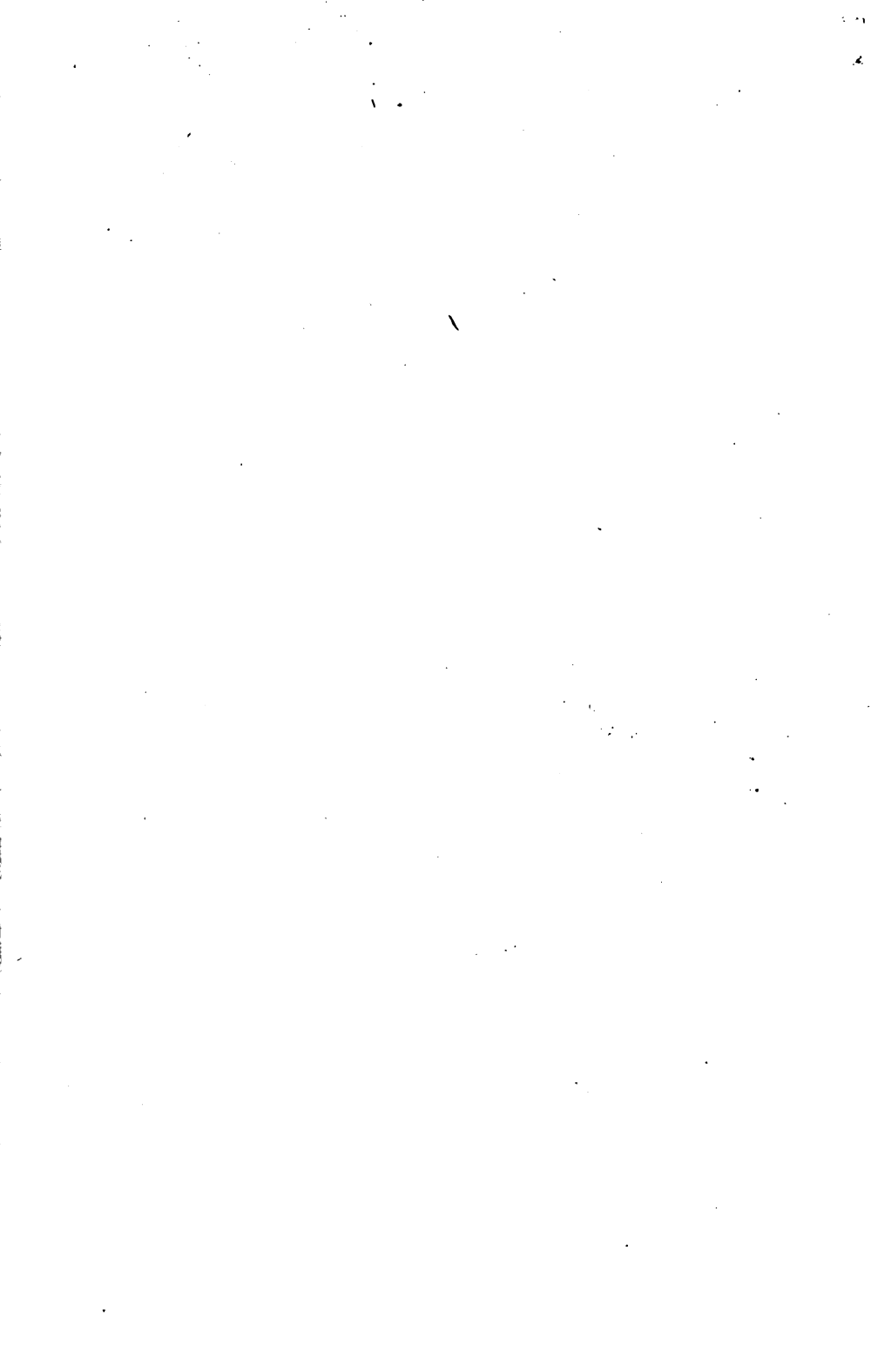
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NASAL OBSTRUCTION.



FIG. 1.

Hæmatoma of the Septum, which appeared immediately after a blow on the nose, and disappeared spontaneously in two months. It had been diagnosed as Sarcoma.



FIG. 2.

Hypertrophy of the Anterior Extremity of the Turbinal.
The base is broad, and the swelling is not mobile.

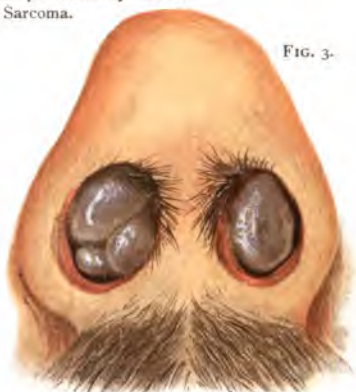


FIG. 3.

Bilateral Nasal Polypi.
The grey gelatinous aspect is well shown.

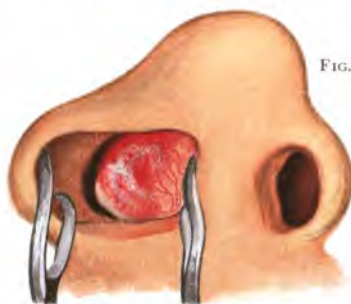


FIG. 4.

Cartilaginous outgrowth from septum nasi. The cartilage shews white on the surface, and the arborescent vessels of the mucous membrane are clearly to be seen.

LECTURES

ON

NASAL OBSTRUCTION

BY

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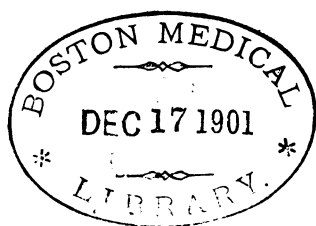
WITH ONE COLOURED PLATE AND 27 ILLUSTRATIONS IN THE TEXT



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PREFACE

THIS little work contains the substance of three Clinical Lectures delivered in connection with the Throat Department at St. George's Hospital in the year 1900.

The subject is a very common and important one. Patients suffering from these conditions are constantly coming before the notice of busy practitioners, who have scant leisure for studying large and comprehensive treatises. The ignoring of nasal complaints in the past has led to a kind of surgical revival, which has engendered undue zeal and frequency in operating. The opinions promulgated in these Lectures, though differing from much of the practice of the day, are the result of personal observation and the experience of a large number of cases. Estimation of the necessity for operating is carefully discussed. Space will not permit of the full discussion of a matter which I feel is urgently in need of further surgical investigation, the diagnosis and effective treatment of sinus suppuration in association with polypi.

The coloured plates were executed from cases under

my care by Mr. Head. I am indebted for the figures to my friend Mr. J. P. L. Mummery, F.R.C.S., while Mr. H. G. Drake-Brockman has assisted me with photographs. The instruments lent by Mr. Hawksley are only sufficient in number to illustrate the text. A complete set of all the instruments and apparatus in use for these cases can only be appropriately depicted in a catalogue. It is hoped that what is said in the Lectures, will serve as a guide to the student and junior practitioner, in the recognition and treatment of the common forms of nasal obstruction likely to be met with in the daily routine of practice.

A. MARMADUKE SHEILD,
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4 CAVENDISH PLACE, W.

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COLOURED PLATE TO FACE TITLE—

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2. Hypertrophy of the Anterior Extremity of the Turbinal.
3. Bilateral Nasal Polypi.
4. Cartilaginous Outgrowth from Septum Nasi.

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LECTURES ON NASAL OBSTRUCTION

LECTURE I

THE CAUSES AND DIAGNOSIS OF THE PRINCIPAL VARIETIES OF NASAL OBSTRUCTION

Frequency of Nasal Obstruction—Divergences of Opinion regarding its Importance—Extreme Views Erroneous—Fashions in Disease—Ignoring of Nasal Affections—Classification of Causes—General Symptoms—Responsibility of Schoolmasters in Cases of “Backward Boys”—Nasal Spurs often of small consequence—Examination of Naso-pharynx by Rhinoscope and Finger—Importance of Anæsthetics as an Aid—Septal Deformities and Outgrowth—Spurs—Bony Hypertrophy and Displacements—Hypertrophic Rhinitis—Mucous Polypi—Multiplicity of—Diagnosis from other Conditions as Sarcoma—Diagnosis from Adenoids—Sarcoma and Carcinoma of the Nose—Naso-pharyngeal Polypi—Gummata—Diagnosis of Adenoids—Congenital Narrowness of Nasal Passages—Hæmatoma—Abscess—Foreign Bodies and Rhinoliths—Synechiæ.

WHEN you enter practice you will be surprised at the number of cases which present themselves, where either the symptoms or some of the supposed consequences of nasal obstruction are stated to exist. Many of these instances occur in children or young adults, and greater concern and alarm than they warrant are, often enough, manifested concerning them. You will be expected to understand and advise about these cases. They are

but briefly alluded to in the ordinary text-books on surgery. If you read the literature of this subject, you will be much confused by the wide divergences of opinion expressed on these and kindred matters. You may find that, while one authority attributes almost every known malady to intra-nasal troubles, another despises such ideas, and a third advises that obstructions in the nasal passage are of no consequence at all. So acute have been the differences of opinion that much acrimonious correspondence has ensued between advocates of different theories. In my student days we heard little or nothing of nasal obstructions, but now this class of maladies has obtained so prominent a place that the science of nose diseases is termed rhinology, and numbers of surgeons and physicians also practise almost entirely in surgical diseases of the nasal cavities. It is, therefore, a matter of great difficulty for me to speak to you authoritatively, without seeming to rudely differ from those who advance pronounced opinions either for or against intra-nasal operations.

Extreme views in our profession, as in other matters, are generally wrong. Indiscriminate operating and universal ignoring of nasal complaints are equally erroneous. That surgeon will do the best for his patients, and ultimately for his own reputation, who is guided by the ordinary principles of surgery and pathology, apart from the follies and fancies of certain classes of patients. There are fashions in disease as in other matters. Those of you who may ultimately have the doubtful privilege to practise among what are termed "smart" or fashionable people, will be surprised at the fancies and crazes which temporarily exist with regard to this or that operation or malady. Influenza, dilatation of the heart, or adenoid growths are examples of fashionable diseases, which, singular as it may seem to you, certain patients are delighted to think they or their children are affected with, that they may pose as sufferers, and create sympathy or interest in their otherwise somewhat obscure

personalities. I tell you all this for you will find that nothing is more difficult than to avoid falling into a common error, namely, doing what patients think or desire, rather than carrying out what you yourself know is best for them. About the year 1895 nasal diseases became much *en evidence*. There can be no question that this class of affections has been much ignored and neglected in the past. We must be cautious and careful that their importance is not exaggerated in the present. A sound and useful test for you to apply regarding intra-nasal operations is to ask yourself this question: Were the patient a near and dear relative of my own, a child, a sister, would I advise that an operation should be done? If you feel doubt on placing the case on such a basis, you had better be content with some more simple local measures.

I wish you thoroughly to recognise that, in advising operative treatment, you must be guided very largely by your own judgment, by what you know to be right, and not by the whims and caprices of patients. Certain people who court needless operations will often enough refuse necessary ones. The patient, for instance, who wishes a needless operation on his nasal septum, would be likely enough to absolutely refuse operation for a perforated appendix which seriously imperilled his life.

With these preliminary remarks, I may proceed with the actual substance of this lecture, and tell you what I know about the causes of nasal obstruction. I have a great dislike to criticise or cavil at the opinions or practice of others, and if what I say differs pointedly or markedly from what is elsewhere stated, you will recollect it is the result of my own practical experience. I have watched and studied these maladies for a period of years, and having had care of the special departments at Charing Cross and St. George's Hospitals, I have had ample opportunities for seeing and treating a sufficient number of cases of nasal obstruction to claim some practical acquaintance with the subject, and formulate ideas of my own, apart from the

teaching or writings of others. In saying this, I especially wish to avoid being egotistical ; but really the literature of this class of affections, and especially the views of treatment, are so diverse, that practical experience can alone guide one in attempting to advise others.

The fact that formerly we used to hear little regarding nasal affections is no proof that they did not exist. Indeed, nasal obstructions influence the growth of children remarkably. The development of the thorax is impeded, the intelligence impaired, and the hearing often gravely implicated. If you ignore these symptoms, and talk of "constitutional delicacy," or that "the child will grow out of it," or employ other traditional stock, meaningless, medical phrases, you will find one day, to your chagrin, that the parents have become dissatisfied, and the patient has been taken elsewhere without your sanction or knowledge. Then too often commence those unpleasant medical bickerings and recriminations which so disgrace our profession, and which I only mention in order that you may avoid them. In nine cases out of ten, they are due to want of proper business instincts and ordinary *savoir faire* on the part of the profession, and I hope you will lay this closely to heart.

In considering the causation of nasal obstruction, you will be much helped by remembering that the nose is bounded by bony and cartilaginous walls, and that mucous membrane, rich in glands, covers these structures. Also, that other cavities communicate with the nasal fossæ, and that malignant growths may readily find their way into, and block the nose itself from the antrum or other accessory sinuses.

The affections of the bones or cartilage which may produce nasal obstruction are mainly as follow :—First, there are all the diverse deformities connected with injury or malformation ; secondly, there are bony or cartilaginous outgrowths ; and thirdly, the inferior or middle turbinals may be morbidly enlarged, displaced, or, more rarely, in a condition of cystic dilatation.

The mucous membrane of the nasal cavities is often thickened and hypertrophied. It may be the site of morbid growths, as epithelioma or sarcoma. Far back in the nasopharynx, the lymphoid tissue becomes so luxuriant and hypertrophied as to originate the well-known adenoid growths. Then, again, cysts may form in the mucous membrane; and the peculiar nasal polypus which we have especially to discuss, originates in the mucous membrane near necrosed bone, especially in the ethmoidal region. From the bones towards the roof of the nose, far back, may sprout a hard fibroma or spindle-celled sarcoma. Such a growth, probably, really springs from the periosteum. The gummatous formations of late syphilis are common enough in the nasal cavities, and simulate all sorts of more serious maladies. Abscess and hæmatoma are found in connection with hard blows upon the nose.

The classification I will present to you is simple, but it includes most of the conditions which cause nasal obstruction, and will be especially useful to you from a clinical point of view.

Conditions of the bones or cartilages obstruct- ing the nasal passages.	{ Displacements, or the angular pro- jections of fractures following in- jury, usually affecting the septum nasi. Congenital deformities of the septum. Exostoses or ecchondroses. Bony hypertrophy or cystic dilata- tions of bone.
Conditions originating in the mucous mem- brane and its glands, or in the periosteum.	{ Thickening and hypertrophy. The so-called mucous polypi. Carcinoma or sarcoma. Vascular growths and papillomata. Gummata. Adenoid vegetations. Rhino-scleroma.

Unclassified conditions.	{	Congenital smallness of nasal cavities.
		Hæmatoma.
		Abscess.
		Foreign bodies and rhinoliths.
		Cicatricial contraction of nares.
		Synechiæ, bony or fibrous.
	{	Meningocele.

I do not propose to discuss in these lectures such rare conditions as glanders, leprosy, and rhinoscleroma. Most of you may pass through a long professional career without seeing or hearing of such cases, and, if you do by chance light upon them, you will find sufficient information from suitable works to guide you in their treatment and prognosis. Meningocele is only mentioned because of its importance in regard to danger to life if meddled with rashly.

General Symptoms.

The general symptoms of nasal obstruction are well known. A child or young adult will be a mouth-breather, and his expression may be, in consequence, silly or vacuous. The front teeth will be crowded together, projecting forward, and the palate is unduly high and arched. A certain amount of concomitant deafness, varying from time to time, is associated. The patient snores at night and "breathes hard" in the day. All such symptoms are aggravated in damp weather or during an attack of catarrh, to which these subjects are peculiarly liable. Often acrid discharge trickles from the nostril, and eczema and soreness about the nose and upper lip are, in consequence, common. The speech is peculiar, the patient being unable to pronounce well such consonants as M, N, and B. The voice becomes, as it is termed, the "dead voice," and this intonation is a most important sign of naso-pharyngeal polypus in young adults.

Indeed, the affection is often at once diagnosed from the peculiar nasal intonation. I am indebted to Sir William Dalby for drawing attention to the fact that Dickens in "Oliver Twist" admirably portrayed the "clipped" speech of nasal obstruction in the person of the Jewish attendant of the villainous Fagin. The throats of patients suffering from nasal obstruction are seldom, if ever, healthy. The cold air, mixed with dust, is inhaled chiefly upon the pharynx and larynx. The tonsils are often enlarged and spongy, the pharynx "granular," and covered with yellow, stringy mucus, while attacks of laryngeal inflammation may also supervene. These may produce a subsequent chronic condition of laryngeal inflammation. Treatment is often limited to the throat condition, while the nasal passages remain obstructed, and the causation of the throat troubles is not recognised.

In young children suffering from marked nasal obstruction the chest undergoes a curious alteration in shape. The sternum is thrust forward, and the lower ribs are drawn in at the sides, so that the patient becomes markedly "pigeon-breasted." Such conditions favour and aggravate many thoracic disorders; and marked thoracic deformity, caused by nasal obstruction, is a strong reason for inclining towards operation.

The child's playfellows commonly enough, with that cruel criticism found in the young concerning each other's infirmities, comment unpleasantly on his appearance or mode of speech. The boy's open mouth is often stopped with soap, at night, to check the loud and offensive snoring. The opprobrious epithet, "fly-catcher," is frequently applied by schoolboys to their open-mouthed playmates. I have also known lads who suffer from adenoids termed "plummy" because they are supposed to speak as though they had plums in their mouths. The "fly-catchers" and "plummies" of our schools often finish their careers on the colonial sheep farm. They are usually mentally deficient because of imperfect hearing, and miss much of that uncon-

scious education which is dependent upon acuteness of all the senses. Such boys, unjustly punished by masters, and often bullied by their fellows, spend many a holiday, begrimed with tears and ink, in writing out impositions for lessons which they have seldom the mental ability to learn. It is most important that schoolmasters should know of these conditions, and still more important that the medical officers of schools should be on the alert to detect them and advise treatment.

It is well worthy of note that many persons who suffer from such causes of obstruction as deflections of the septum nasi, or small spurs and outgrowths of bone, exhibit no symptoms of consequence and, indeed, are not aware of the existence of their deformity until they are informed of it. If they are nervous individuals, their minds at once begin to dwell upon their noses, and they will do their best to persuade you to operate upon them. Should you decline, they will have no trouble, as a rule, in these days of surgical competition, in getting their wishes gratified! About the year 1890, I observed the cases of two students who came to me in consequence of having read about nasal diseases, and who forthwith proceeded to test their own powers of nasal respiration. They found they could not breathe so well on one side as on the other. These students had small spurs growing from the septum, and, if they had not read about the subject, they would have remained in total ignorance that they possessed them.

Facial or temporal neuralgia is often attributed to nasal obstruction. When severe neuralgic pains are present about the face, and the teeth are not at fault, the nose should be carefully examined. I must say the conditions I have found most commonly producing neuralgia are antral abscess, tumours, or foreign bodies. I have seen an enlarged turbinal pressing against the septum produce this symptom, but I feel sure this is exceptional. It is right to say that some American authors lay

stress upon this condition, and look upon enlarged turbinals as important causes of facial neuralgic pains, but this has not been my own experience.

All the symptoms of nasal obstruction are much exaggerated by attacks of an inflammatory nature, such as occur in a common "cold." Again, it is right to point out that the consequences of nasal obstruction may be really the leading symptoms of it. Thus a patient may suffer from severe attacks of asthma due to an unsuspected nasal polypus. Advancing deafness and tinnitus may be produced by a marked unilateral nasal obstruction, or a child may suffer from attacks of laryngismus, or from constant colds and coughs, with non-development of the chest, due to unsuspected adenoid growths. Even such a symptom as epistaxis may be readily produced by the irritation and ulceration on the prominent convexity of a nasal spur, or by a foreign body. It is especially true, at the risk of repetition, that many affections of the throat are really due to nasal obstruction. This is a matter of the very first importance to those who use their vocal organs much, as singers, public speakers, and the like. I will next pass on to consider how best to examine these cases, with the view of giving a sound and conscientious opinion regarding them.

EXAMINATION.

The Aspect of the Patient.

The aspect of patients with nasal obstruction is so typical that it at once engages your attention, and it must be so familiar to you that I almost need an apology for showing the accompanying photographs. When you see such an appearance as this, there can be little doubt that true nasal

obstruction exists. One variety of blockage, namely, extreme



Fig. 1.—A SCHOOLBOY WITH ADENOID GROWTHS.

deviation of the septum, at once shows itself on external inspection. In the subjects of this deformity, the nose is quite obviously bent or deflected to the side opposite to the convexity of the septum. Again, cartilaginous or bony outgrowths of the septum itself may be easily seen on external inspection, and the cicatricial contraction of the nares, after lupous or syphilitic ulceration, is common and distressing

enough. Do not be satisfied merely with outside inspection; look narrowly at the throat. Abundant adenoid growths are commonly associated with tonsillar hypertrophy. The back of the pharynx is granular, and covered with streaks of yellow mucus, and fragments of adenoid growth may, in bad cases, even be seen with the unaided eye just appearing behind the soft palate. The soft palate is frequently depressed, and this symptom I have often pointed out in the throat department of our hospital.

Inspection by Direct Light.

If the head of the patient be thrown backwards, and the nose gently tilted upwards with the finger and thumb before a strong light, as from a window or powerful lamp, much instruction may at once be gained. Most deflections and outgrowths of the septum become visible by this simple manœuvre. So do polypi, and the familiar hypertrophic enlargement of the mucous membrane over the end of the turbinal. A foreign

body in the nose of a child, such as a pea or pebble, will generally thus be detected if the mucus and discharge be carefully cleared away with wool and the probe be gently used. Tilt the head in all directions so as to make the light fall into the nose at various angles, and do not be content with a cursory glance or examination.

Examination by Rhinoscopy.

Next proceed to examine the nose by the aid of one of the specula commonly in use. I usually employ the instrument depicted in the accompanying figure, but most surgeons have their favourite pattern. A good reflected light from the sun, or, in London, from a powerful lamp or electric light, is essential. You examine the nose in various positions of the head so as to throw the light upwards, downwards, sideways, and thus inspect every part of the nasal chambers. I have lately employed a long tubular speculum with advantage. This, when passed along the floor of the nose, enables you to get glimpses of the structures very far back, even in the posterior nares. Your examination is not yet completed. It is an essential aid to diagnosis, in these cases, to spray or paint the nose with a five per cent. solution of cocaine. This causes shrinkage of the mucous membrane and of many hypertrophic conditions of that structure. After its use, abnormalities may come into view which you never appreciated before, and you may with the probe examine supposed polypi or outgrowths, to ascertain their mobility or attachments, without any inconvenience to the

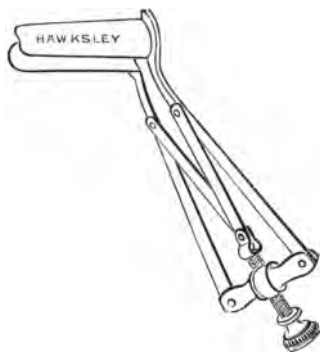


Fig 2.—NASAL SPECULUM.

patient, while the parts are cocaineised. Indeed, I regard cocaineisation of the nose as always needful if a thorough examination is to be made. As regards the phenomenon of cocaine poisoning, I have but twice met with it in using this weak solution. In each case it was easily overcome by a dose of alcohol, and by keeping the patient in the recumbent posture.

Examination of the Naso-pharynx.

We now enter upon a more difficult subject. No examination of a case of supposed nasal obstruction is complete without an

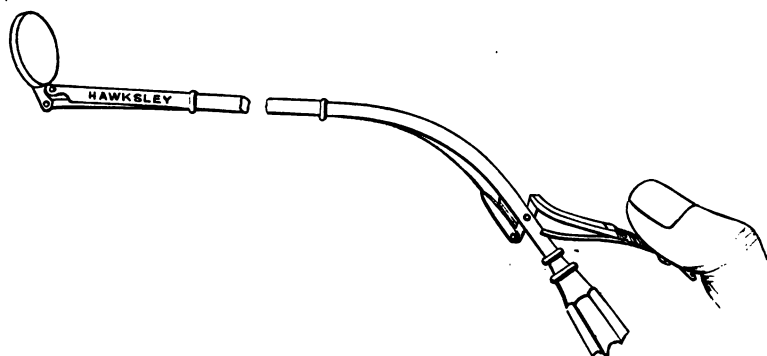


Fig. 3.—THE RHINOSCOPIC MIRROR.

investigation of the naso-pharynx, and this, in practice, is often a matter of greater difficulty than one would at first believe or than authors would lead you to expect. In the first place, I must tell you definitely that a good many years of practice have taught me that the rhinoscope is an instrument of somewhat limited application. I advise you to mistrust the elaborate illustrations of rhinoscopic appearances often depicted. In a tolerant adult, with a roomy naso-pharynx, this instrument, aided by cocaine, may be employed with usefulness. Without touching the tongue or palate, the little mirror is slipped into

the space behind the palate, and shifted in various directions, until the posterior parts of the nose come into sight. Now I must especially remark that the view of the parts thus given is in scraps or portions. The mirror is far too small to reflect a picture of the whole, as is the case with the laryngoscopic image. So you must connect what you see, in your mind, and thus a tolerably good idea of the parts at the back of the nose may come before you. In cases where it is very important to use this instrument, the soft palate may be drawn forward by the following manœuvre. The nose and palate being well cocaineised, a piece of soft silk is passed through the nose by the aid of a flexible catheter. To this is connected an india-rubber band, which is drawn through the nares by the silk into the mouth,

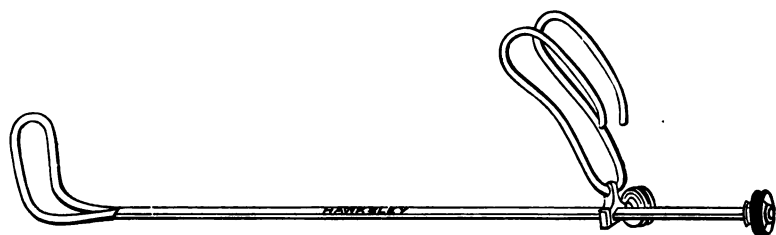


Fig. 4.—HOOK FOR DRAWING FORWARD SOFT PALATE.

and tied with moderate tightness over the upper lip; it thus draws the palate forward, and permits of the use of the mirror in a most satisfactory way. The palate hook tractor is also most useful, and I often employ it as an aid in the use of the rhinoscope. The conditions which produce nasal obstruction, and which can be usually detected by this means, are adenoids, polypi, and, especially, enlargement of the ends of the turbinals. In private practice, in many nervous adults with a small naso-pharynx and contractile palate, and almost invariably in children, the use of the rhinoscope is limited to "glimpses" or "impressions"; or to put it plainly, such imperfect observations that no man of an accurate mind would care to found a definite opinion upon them.

How, then, are you to examine the naso-pharynx in such patients as these, who, I assure you, will form a considerable proportion of your clients in private practice?

Examination by the Finger.

I have a high estimation of the value of digital examination in posterior obstructive conditions of the nose. The examination is often very disagreeable, and it should be done as rapidly as possible. I always paint the palate with a five per cent. solution of cocaine, and pass the brush behind it also. Then the right forefinger, guarded at its base with lint or an india-rubber finger-stall, is passed rapidly to the back of the pharynx and up into the posterior nares. There is a tendency for the palate to be pushed up before the examining finger, unless the rule of keeping the finger closely in contact with the naso-pharynx be followed. The finger should be passed into the posterior nares, if possible on both sides, and the size of the posterior ends of the turbinals should be estimated. Adenoids will at once declare themselves by their soft, spongy texture, and the finger will be withdrawn covered with mucus and blood. You may detect an unsuspected polypoid growth hanging from the upper part of the nasal cavities. But in highly nervous patients or in young children this examination will be difficult; it is too often incomplete; it may be impossible. In children, you are sometimes advised to have the child firmly held upon a nurse's lap, then to place a gag in its mouth, and examine the naso-pharynx whether the patient will or no. Such "scenes" are always unpleasant; though the child may scarcely be hurt at all, yet its terror may be extreme, and its screams and cries are very disagreeable to the parents, the whole proceeding having rather a brutal appearance. I have known a young and nervous youth have an attack of syncope after such an examination of the naso-pharynx, and I can only tell you that if you carry out

diagnostic methods in this rough way upon children and nervous patients, you will soon be relieved of further attendance upon them.

Anæsthetics as an aid to Nasal Exploration.

I make it a rule, in this type of patients, to insist upon examining under an anæsthetic. In many cases diagnosis and treatment can be carried out at the same time, and the instruments suitable for the treatment of the common varieties of posterior nasal obstruction should always be ready and at hand. Insufficient examination of nervous or fractious patients leads to more errors in diagnosis than is generally known. This explains the common and unpleasant "differences of opinion" that are always arising among members of our profession as to the existence or extent of, for instance, adenoids or polypi. It is far better to say, "I cannot make a proper examination in this nervous child. From the symptoms, I believe the growths to exist, and I advise examination to be completely and deliberately done under anæsthetics, and the growths present to be removed, if they are found, at the same time." But nasopharyngeal examination under anæsthetics has a range of wider importance than this. It is a wise and excellent rule in surgery to examine all complicated cases of disease, which can only be felt and not seen, under anæsthesia. The conditions then appreciated are often widely different to what are found without this valuable aid.

With it the question of the degree or nature of an operation can be estimated with a certainty unattainable from a hurried and painful investigation. This is especially true in such affections as cancer of the rectum, or abdominal tumours fixed in the pelvis. It is equally true in such cases of nasal obstruction as posterior polypoid growths. It is often a matter of extreme difficulty, for example, to say whether a growth in the naso-

pharyngeal region can be safely removed or not. Careful and prolonged examination with the finger can alone settle this point, and usually anæsthesia is a great help. Again, in suspected foreign bodies, impacted in the nose of young children, anæsthetics are useful. Under anæsthetics, the whole nasal tract can be methodically explored in a most satisfactory way, and I would urge upon you the importance of this practice in nervous patients and in cases of complicated growths, where prolonged digital examination may be needful.

You thus see that to examine a case of nasal obstruction properly requires a good deal of time and unlimited patience. Those who scoff at the subject of nasal diseases are, I think, too prone to limit their examination to a glance up the nose from in front, and to saying: "I can see nothing the matter."

A common error in the examination of supposed nasal obstruction is to imagine that because one cause is detected it explains all the symptoms, without reference to others. Thus polypus and enlargement of the turbinal are very often associated, and hypertrophy of the mucous membrane and adenoid growths are common associations. An operation is done for one condition, but the other is left, and consequently the result of the operation is poor or nugatory.

An examination, conducted on the principles I have just described, will generally enable you to come to a conclusion as to the cause or causes which may be present. We will next proceed to investigate the diagnostic features of the more important conditions which may present themselves, recollecting that I aim especially at dealing with the more common maladies, such as are likely to come before you in your daily avocations.

Conditions of the Septum Nasi causing Obstruction.

We are obliged, in connection with this subject, to plunge at once into the realms of controversy. It is in these cases, especially, that acute differences of opinion are manifest as to the necessity for operation. Those who hold extreme views on this subject, seem to assume that the normal healthy septum nasi must be absolutely straight, seated in the median line with mathematical precision, and its surface as plane as that of a mahogany board. I have examined as many "nose-cases" as most surgeons, and I must confess that I cannot tell you what a normal septum ought to be like. Slight deflections, crookedness, or convexities and concavities leading to inequalities of surface, are exceedingly common among those who suffer from no symptoms of importance. You may easily judge this for yourselves by examining your fellow-students' noses or those of any patients who come before you for other reasons. How, then, are you to determine if such conditions need treatment? I can only give you my own rule, which has stood me in good stead in practice, and which I mean always to adhere to. Only extreme conditions of septal deformity or outgrowth need operative treatment. Patients will be well advised to leave the minor degrees alone, unless they are associated with some other varieties of nasal obstruction, which they increase and aggravate. A special reason for operation is increasing deafness on the side of the septal deformity.

Good tests for the necessity of treatment are the impossibility of inspiration when the non-affected nostril is closed, and contact of the turbinal with a septal convexity or outgrowth. If, with this, the patient is a mouth-breather, or has commencing deafness with tinnitus on the obstructed side, the need for treatment becomes more pronounced and definite. In other words, it is not the deformity you need study as much as the symptoms which spring from it, and are created by it. The

diagnosis of septal deformity is much aided by a curved probe. You may always tell a convexity of the septum from an outgrowth by the fact that a septum, unduly curved into one naris, has a corresponding hollow or concavity in the other. Most outgrowths of the septum are cartilaginous, and are situated close to the external orifice, so that, on attempts at inspiration, the outer wall of the nostril impinges upon the obstructing mass like a valve. In extreme cases of septal deformities, such as occur after bad fractures, the convex obstructing portion may be very obtuse, and may even show externally, the nose being obviously turned to the opposite side by the great curvature present. I may make a passing remark and say that these cases are not very creditable to us, for they

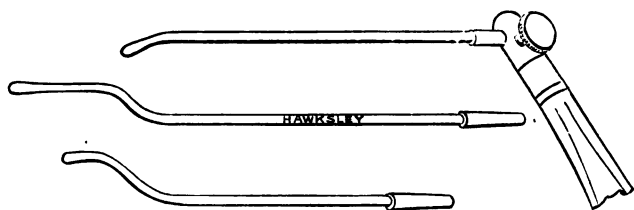


Fig 5.--CURVED PROBES FOR NASAL EXAMINATION.

generally mean that a bad "broken nose" has been overlooked or carelessly treated.

I have no doubt that many deformities of the septum are really the result of the knocks and falls on the face so common in childhood. When a child falls and strikes its nose, with bruising and violent bleeding, I make it a rule to examine carefully under anæsthetics, and if there be any fracture or displacement, to then and there carefully rectify it, inserting celluloid splints, which the child wears for some weeks. This is a digression, and I cannot enter now into the treatment of fractures of the nose, but I assert my belief that neglect of nasal injuries in early childhood is *par excellence* the true cause

of those extreme septal deformities or displacements which, later in life, lead to most troublesome forms of obstruction. The diagnosis of outgrowths and septal deformities is not difficult. The colour, the situation, the concavity opposite the



Fig. 6.—EXTREME DEVIATION OF SEPTUM NASI FROM A
NEGLECTED FRACTURE.

convexity, and, especially, the gentle use of the bent probe, will make it clear in what part of the nose the obstruction has its origin.

Diagnosis of Exostoses or Ecchondroses.

The majority of these conditions which really need treatment spring from the floor of the nose, or the septum near its external aspect. They are more generally cartilaginous than bony. By reflected light and the probe, their situation and contour can readily be determined. The growth is red or pale pink, and faint arborescent vessels are often seen upon it. The summit is pale and anæmic. When bony growths spring from the floor of the nares they are usually mere spurs, and are quite common in adults. Rightly or wrongly, I believe that, unless they considerably occlude the nose (Plate I., fig. 1), they are generally of small pathological or clinical import. Large exostoses of ivory consistence or diffuse bony growths may, of course, occur in the nose or its accessory cavities. They are so rare that I do not propose to deal with them here, beyond saying that their exceedingly slow growth and extreme density make the diagnosis as a rule plain and easy. Some of the largest of these tumours are really odontomes, and you must all know the remarkable specimen in our museum, which has figured in many surgical text-books.¹

The situation, appearance, and density of spurs, ridges, or outgrowths, usually make the diagnosis of them easy enough.

Bony Hypertrophy or Deformity and Displacement.

These conditions are sometimes found about the inferior turbinals, which may be enlarged posteriorly as well as anteriorly, the posterior extremities forming large masses easily to be felt with the finger introduced behind the palate. An enlarged turbinal may actually touch the septum, an area of pressure ulceration being found at the place of contact. Again, the turbinal may be deformed by cleavage or otherwise, and thus

¹ See author's article in "Treves' System of Surgery," Vol. II., p. 369.

cause considerable obstruction. You will often be in doubt, in these cases, as to how much of the obstructive swelling is caused by the thickened mucous membrane, and how much by the bone. In these circumstances cocaine is a very useful aid, for the great shrinkage of mucous membrane caused by its use will often show you that the obstruction exists in the soft, rather than in the hard parts. In my own experience this is usually the case, and true obstruction from bony enlargement of the turbinals is comparatively exceptional. Actual cysts have been described as forming in the turbinals. I have only twice seen cases of this condition, and it is so rare that I need hardly further refer to it.

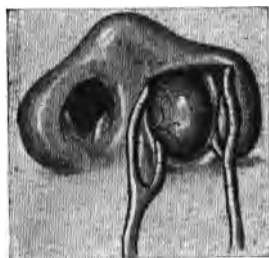


Fig. 7.—BONY CYST OF THE SEPTUM NASI, ENTIRELY OCCLUDING THE PASSAGE.

But I may here relate a very remarkable case of cyst originating in the nasal septum which came under my notice in November, 1899. A pale, anæmic girl came to the throat department at St. George's Hospital suffering from left nasal obstruction. The history was quite vague, but the affection was certainly of gradual onset, and had existed for over two years. The left nasal passage was quite occluded by a rounded tumour, the size of a large marble, which originated by an obtuse base from the septum, and pressed the inferior turbinal outwards by its rounded summit. The mucous membrane over it was red and vascular, and, somewhat to my surprise, it was quite bony to the touch of a probe. Indeed, I at once made the diagnosis of an osteoma springing from the lower part of the vomer. On the opposite side, a slight bulging could be seen indicating the site of the tumour in the left nares.

I operated on November 9. The patient was placed in the right lateral position, and anæsthetised with chloroform by Dr. Michod, then resident medical officer at Waterloo Bridge Hospital. With

some difficulty, I introduced a fine narrow saw above the growth and cut downwards. I expected firm osseous resistance and a prolonged operation. Instead of this, the saw passed through with comparative ease, a quantity of glairy fluid escaped, and with forceps I removed the detached portion, which was a section of a bony cyst, with a mucous lining. There now escaped from the nose a quantity of strange material, which was inspissated nasal secretion. It exactly resembled the contents of an ovarian dermoid, being brownish in colour and putty-like. Fully an ounce came away, and, by the finger, in the posterior nares I could feel more in the upper nasal meatuses, which seemed dilated. We felt uncertain at the time whether or not we had somehow opened a dermoid, yet we could not see how this could be the case. The patient made a perfect recovery.

I would repeat that the conditions which produce nasal obstruction, so far as the turbinals are concerned, are usually limited far more to the mucous membrane than to the bones themselves. The situation and shape of turbinal hypertrophy are sufficiently diagnostic. The difficulty of being certain whether the obstruction is caused by the enlarged bone, or the swollen mucous membrane over it, is often considerable, and the conditions seen after shrinkage from the use of cocaine must here be your principal guide.

Affections of the Mucous Membrane. Hypertrophic Rhinitis.

This is one of the most common and important conditions which produce nasal obstruction, and its diagnosis is to be made by observing the symptoms which attend it, as well as by local inspection. The patient is usually a young adult ; a number of the worst cases are found in young women. I have seen severe cases associated with the exhaustion of repeated pregnancies. They complain of a sensation of fulness or "stuffiness" in the nose, which may be quite intolerable, and may occasionally lead

to total obstruction. A prominent symptom is the large amount of mucus which flows from the passages, enough sometimes to saturate ten or twenty handkerchiefs in the course of the day. In the same way discharge may flow down the back of the throat. The obstruction often shifts from one side to the other, and is aggravated by cold, damp, dust, the emanations of hay or pollen, and many climatic conditions. Thus many of these cases are well in the dry air of St. Moritz or the Cape, and at once relapse on returning to London or its suburbs. The symptoms in women are often aggravated at the menstrual periods, and, in many females, the neurotic element is distinctly marked. The amount of swelling and obstruction may be slight, but the complaints regarding it are very aggravated and bitter. In such patients the mind is constantly dwelling upon the nasal conditions, and operations of any kind are eagerly sought; while the dreadful cocaine habit, with all its attendant miseries, is only too readily induced by injudicious practitioners. Patients with hypertrophic rhinitis, especially women, are seldom in good health. The sexual functions may be gravely abused in the newly married. They are often markedly anæmic, with disordered bowels or painful menstruation, and there is usually much to be done to the general health, as well as to the mucous membrane of the nose. I would especially draw your attention to this consideration. Inspection of the nose in hypertrophic rhinitis usually at once declares the true nature of the malady. The mucous membrane is swollen, of a shining greyish tint, so that the turbinals lie along the outer wall of the nose like large grey slugs. The shining grey appearance is very characteristic. The swelling, especially of the front end of the turbinal, may be so great that a polypoid excrescence is found (Plate I., fig. 2). This is often confounded with true polypus, but is to be distinguished from it by observing that hypertrophic tissue is more pink in colour, and not jelly-like in aspect. It is sessile, and does not swing to the

touch of the probe like the mucous polypus. Confusion between these two conditions is, however, very common in nasal surgery. If you paint the parts with a five per cent. solution of cocaine, marked shrinkage of all the engorged tissues always takes place. Not rarely, the vascular element predominates in these cases, and the swollen mucous membrane, instead of being greyish or pink, is engorged with blood of a dark red colour. The veins may be actually varicose, and the term, turbinal varix, is often applied to some of these and like conditions. Thus the actual condition of the mucous membrane in hypertrophic rhinitis is apt to differ; yet the fact that this structure is really at fault is usually apparent enough.

It is common to find deformities of the septum and nasal spurs associated with hypertrophic rhinitis. This is very important, for in such cases comparatively slight outgrowths of the septum or floor of the nose may really need treatment. Some authors have asserted that such obstructions are really the causes of the hypertrophic conditions of the mucous membrane, owing to the inequalities of atmospheric pressure produced by their presence.

Mucous Polypi.

The diagnosis of polypi of the nose is tolerably easy, if once you familiarise yourselves with the appearance of these growths. When patients have any obstructive condition in the nasal passages they are apt to imagine they suffer from polypus, an idea frequently fostered by the diagnostic errors of some members of our profession. Thus the outgrowths of hypertrophic rhinitis, and even the normal turbinals, are quite often pronounced to be "polypus" by careless observers. This term is a very alarming one to patients. When you tell your patients they have polypus, they frequently rush off for other advice regarding the affection. If you have unhappily made an error in diagnosis

the patient will not readily forget or forgive you. Therefore be a little cautious how you use this term. The general signs of polypus are those of nasal obstruction. The symptoms are always worse in damp weather, and the affection is very rare in childhood or early life. Personally, though numbers of these cases have been constantly coming before me for many years, I have never seen an example of mucous polypus of the nose in a patient under ten years old. I have, however, seen these growths of large size in the naso-pharynx of young girls of thirteen and fourteen years respectively. In bad cases the nose may actually be expanded, and the growths then readily appear on inspection as smooth, grey, shining, jelly-like masses (Plate I., fig. 3). More commonly you see them, by reflected light, the size of a grape or cherry, partially concealing the middle turbinal. The smooth, jelly-like aspect is peculiarly diagnostic, and you ought to make yourselves familiar with it. Polypi may be round, or so moulded by the configuration of the nasal cavities that they are flattened from side to side like the comb of a cock. The pedicle is usually attached to the outer wall of the nose on the mucous membrane of the inferior or middle turbinal, or the nasal hollow between them. The growth moves when pushed with the probe, and I would repeat that the shining jelly-like aspect is the leading diagnostic feature. In a large proportion of the cases, yellow pus will be detected on the upper aspect of the growth, and this may come from the antrum, the frontal, or the ethmoidal cells. When you see one polypus, recollect that it is more than probable there may be others. The growths are seldom single. In my note-books are cases where as many as thirty or forty of these growths have been removed from one person's nose. Indeed, it is almost incredible what a mass of these tumours the nasal cavities will contain. You must learn to carefully distinguish between mucous polypi and sarcoma or carcinoma, which sometimes closely resembles them, and may be more or less polypoid in form. I may tell you at once that this is some-

times far from easy, and you must be very cautious in pronouncing definite opinions. A malignant polypus is usually livid in colour, or perhaps actually fungating. It is generally found in elderly persons, associated with, or preceded by, severe neuralgic pains. When you touch the tumour with the probe it readily bleeds, and this symptom never occurs in simple growths unless they have been lacerated. Be very cautious what you do with a polypoid growth of the nose which exhibits the symptom of hæmorrhage. On close examination you will likely find that the origin and main bulk of the growth are really in the antrum, or perhaps towards the ethmoidal cells. What you see in the nose is only a fungating and protuberant portion of a very serious growth. The cheek may be swollen and dusky in colour, and the eyeball protruding. The stretched skin may be obviously infiltrated by growth. Such cases as these are very formidable, and ought never to be confounded with the simple mucous polypus. Operations for their relief are always perilous, and often fail to prevent rapid recurrence, with speedy destruction of the vital powers and ultimately of life. I may here also draw your attention to the fact that a simple mucous polypus may exist on one side and sarcoma on the other. I have seen, on two occasions, mucous polypi in the nose associated with sarcoma of the antrum. I also know of cases where removal of multiple polypi has ultimately been followed by the development of sarcoma. An excellent example of this mixed form of disease, of "benignancy and malignancy" in the same nares is recorded by Hector Mackenzie in the *British Medical Journal* for July 9, 1898, and he there refers to many cases of a similar nature under Onodi, and others.

I may here shortly insert an illustrative case which happened in my practice many years ago, showing how formidable an error in distinguishing between simple and malignant polypus may prove. A lady, aged sixty-two, had left nasal obstruction, caused by a large polypoid growth of dubious duration. She was very nervous, and would have nothing

done without anæsthetics. Accordingly she was anæsthetised in the lateral position by Dr Hewitt, and I removed the mass with a cold wire snare. It was the size of a large grape, livid in colour, with the consistence and appearance of soft granulation tissue. The removal was followed by severe and sudden hæmorrhage, the blood literally gushing from the nostril. This was arrested by pressure, but it at once recurred, and on digital examination I found that the outer wall of the nose was perforated, and that the mass I had removed was only a large and protuberant outgrowth of a serious antral sarcoma, which was bleeding profusely. Fortunately, I had some bone instruments in my bag, and I at once removed the lower part of the superior maxilla, leaving the orbital plate. I had no intelligent assistant, and the hæmorrhage was so profuse that the patient was to all appearances moribund. She revived by the help of saline enemata, and was left on the operating table for some hours. For over two years she remained perfectly well. Then the growth, a round-celled sarcoma, recurred in the base of the skull, proving fatal in a few months. Removal of the maxilla was, of course, the right treatment, but no one likes to have an operation of this magnitude suddenly obtruded upon him, and with a patient unprepared for so serious a step. The colour and consistence of this growth would now at once have made me suspicious of its true nature.

The importance of dealing with extreme caution with polypoid growths, which project into the nose from the antrum, may be further illustrated by the following case. A farmer, aged sixty-eight, was under the care of Ashurst, of Philadelphia. The left naris was blocked by a firm growth, and the left eye protruded, while the left cheek bone was also prominent. Several portions of the polypus were removed with the wire snare, and it was then found that the growth protruded from the antrum. The anterior wall of the antrum, the orbital plate, and the turbinals were entirely destroyed by the growth, which was obviously sarcomatous. The hæmorrhage was so profuse that the patient died in an hour after the operation was completed.¹

Another error in the diagnosis of common polypi is to imagine that they always occur in front, or in such parts of the nose as may readily be inspected. The fact is, that a certain number of

¹ "Path. Soc.," Philadelphia, Volume XII., p. 612.

these tumours grow backwards into the naso-pharynx and hang down behind the palate. These growths are often long and worm-like, and generally have flattened or attenuated pedicles. You may at once suspect them to exist by the peculiar "dead" intonation of the voice, the patient "clipping" his words. Thus these cases, when associated with nasal obstruction and mouth-breathing, are very often confounded with adenoids, and operations are undertaken for the latter condition. When the patient is under anæsthetics, the operator finds to his dismay that the supposed adenoids are one or more slippery growths, which he cannot seize or remove, and the operation becomes one of considerable difficulty. Probably no requisite instruments will be at hand, and the case has to be abandoned. I have known this sequence of events in several instances, and you will avoid such very unpleasant errors if only you keep to the rule of examining, with the finger, dubious naso-pharyngeal affections under cocaine or anæsthetics before you venture on a definite opinion, still less on an operation. Mucous polypi, when hanging into the naso-pharynx, are always tougher in consistence and more fibrous than the growths which are found anteriorly. I would especially point out to you that the pedicles are comparatively slender, and consequently the growth moves or swings to the examining finger. Sarcomatous growths in this region have broad, fleshy attachments to the base of the skull, and the growth seldom moves or swings on a slender stalk. Look with great suspicion on a fixed growth with a broad base behind the nose. If such a growth be soft and bleed profusely, especially on examination, it will be in nine cases out of ten a sarcoma or a cancer springing from the vault or sides of the pharynx, and the case resolves itself into one of the most formidable and dangerous in surgical practice.

Malignant Disease, Sarcoma and Carcinoma.

As regards the diagnosis of these affections when obstructing the nose, I have just drawn your attention to the fact that they may closely simulate the ordinary mucous polypus. I must also point out the close resemblance between sarcoma, especially the softer forms of sarcoma, and exuberant granulation tissue associated with necrosis. I have known grave diagnostic errors committed in this direction. The microscopical distinctions of tissues in a young or developing state are very untrustworthy, and the diagnosis of these cases presents more than ordinary difficulties. Again, a gumma, fungating or breaking down in the nasal cavities, has the closest resemblance to malignant disease, and often the test of treatment, by large doses of iodides, has to be resorted to in deciding between these affections. Conversely cases of this nature, which have been pronounced "cancerous" too hastily, have recovered spontaneously or under iodides, and this explains the supposed influence of certain advertised remedies over growths which have been incautiously pronounced to be cancerous by members of our profession. These instances are simply diagnostic errors. I have probably made them myself, and I would now do what I can to save you falling into like mistakes. In the first place, remember that such cases pre-eminently demand careful consideration and discussion with others. Do not jump at conclusions and say to a patient, "You have cancer of the nose" because you see a threatening-looking growth. Explain the difficulties of the diagnosis, and either share the responsibility with others, or watch the case for a time and study it carefully before pronouncing definite opinions.

The following rules may be of essential aid to you :—

1. Sarcoma and carcinoma generally originate in the antrum or ethmoidal cells, and invade the nasal cavities secondarily. Severe neuralgia of the fifth nerve is often an early symptom in elderly patients.
2. A rapidly progressing growth of the nasal cavities in a young or an old person is seldom innocent in nature.
3. Hæmorrhage, easily excited on touching with the probe, is a leading sign of malignancy, and so is a foul and sanious discharge.
4. Lividity of colour of the growth, a cauliflower excrescence, a tendency to fungation and to implicate the parts around, with duskiness and congestion of the skin of the face, are all leading signs of malignancy. (Fig. 27, p. 100.)
5. The progressive increase of the disease from bad to worse, despite the administration of iodides, is an important and unfavourable sign.

All these considerations apply equally to the softer forms of sarcoma and carcinoma, which clinically are generally indistinguishable. A separate consideration must be given to the diagnosis of the firmer varieties of sarcoma, which are of the spindle-celled variety, and are termed naso-pharyngeal polypi, from the fact that they generally originate somewhere towards the base of the skull and expand towards the naso-pharynx. I have examined a number of these growths with the microscope. They are generally sarcomata. Spheroidal carcinoma may invade the nose from the antrum, often originating about a carious tooth, and spreading upwards, not downwards. Suppuration and sinuses may be associated with these growths, and the simulation of necrosis is then very close. Again, I must point out to you, that sarcoma or carcinoma may originate in the mucous membrane of the septum or turbinals. The symptoms of fungation and hæmorrhage are just the same, but the affection is, in my experience, exceptional in these localities.

These are the cases you are so prone to confound with gummata. Lastly, I may mention that I have known a rhinolith to be confounded with cancer. The hard mass covered with granulation tissue may readily deceive. Of course, the use of the probe should at once guide you aright, as it will detect the extreme density and hardness of the rhinolith.

Naso-pharyngeal Polypus.

I have drawn your attention to the important fact that the ordinary mucous polypus may grow at the back of the palate, more especially in young adults. But now you must note that this is also a situation for the firmer varieties of sarcoma. This very formidable disease is thus diagnosed from the simple naso-pharyngeal growth.

1. The patient is almost invariably a young adult, and the nasal obstruction is of gradual and progressive onset. Severe neuralgia is a common concomitant symptom.
2. Attacks of bleeding and sanious discharge are common, especially after examination.
3. The finger in the naso-pharynx detects a firm fleshy growth, which does not easily move or swing on a slender pedicle. The growth is lobulated, and, if seen with the mirror, is usually of a pale pink, with enlarged vessels covering in the surface.
4. The growth has a tendency to invade the nasal cavities, and to form secondary adhesions. It may creep into the pterygo-maxillary region of the orbit, and even invade the cranial cavity. In such advanced cases, hideous deformity of the features may be produced; the jaws may be forced forwards, and the eyeball protruded, while the nares become "choked" with growth and inspissated discharge.

The patient commonly looks very white and anæmic from the repeated hæmorrhages.

It is well to point out that the structure of these tumours varies, and the symptoms will therefore also differ. Some are of very slow growth, and closely approximate to fibroma. Others are full of large cavernous vessels, especially in the mucous membrane. The site of origin of the firm fleshy growths is almost invariably the base of the skull, near the body of the sphenoid or occipital bone, and the pedicle is generally broad and fleshy. The connections and true nature of these tumours can only be determined by examination under anæsthetics.

Vascular Growths.

Most tumours of this nature are unfortunately very hæmorrhagic sarcomata. True angiomata may form in the nose, associated with nævoid tissue in lip or skin, but such formations are exceedingly rare and exceptional. Most readily-bleeding tumours of the nares are malignant. True nævus of the lip and septum will, of course, be congenital. The colour and appearance will make the diagnosis quite clear. Very rare cases are described of pulsating tumour, aneurism by anastomosis of the septum. I have never seen such a case, but I have described a tumour of this nature of the hard palate, which necessitated removal of part of the jaw,¹ and there is no reason why such growths should not, as extreme rarities, occur in the nose.

Papillomata.

As regards the diagnosis of these affections, they are uncommon, and I have only seen two undoubted cases. By far

¹ "Trans. Odontological Society," Vol. XXVIII., p. 171.

the greater number of growths, stated to be papillomatous, are really vascular hypertrophies of the anterior or posterior end of the turbinals. These, when florid and lobulated like a raspberry are very apt to be termed papillomata. The true warty growth is small, slow in growth, and usually situated on the septum. Its vascularity and, therefore, its appearance differ; it may be stalked or sessile. The slow increase and the absence of induration at the base distinguish this tumour from epithelioma.

Gummatous Tumours.

The primary manifestation of syphilis is so rarely found within the nares, that I do not propose to occupy your time with it. It is otherwise with gummata. These formations may occur within the nose many years after the original attack. They are often mistaken for more serious diseases. A gumma in the nose is characterised by the following symptoms :—

1. It usually occurs upon the septum. It forms a circumscribed swelling of a purple colour, with a marked tendency to slough and break down in the centre. Severe nocturnal pains are generally associated.
2. As nasal gummata are generally found in bad cases of syphilis, concomitant signs of the disease on the tongue, pharynx, or skin are commonly to be detected.
3. The gumma may be acute and inflamed, when it will closely simulate an abscess. It may be distinguished from the latter by observing the greater amount of actual solid material at its base. When the gumma "breaks down," the deep central circular ulcer, with the grey slough, is highly characteristic.

4. In some cases, gumma of the nose may be diffuse (gummatous infiltration). The diagnosis may be exceedingly difficult, and the practical rule must be observed never to neglect giving iodide of potassium as a diagnostic measure in nasal tumours of apparently formidable aspect, when the diagnosis is at all dubious.

Adenoid Growths.

Adenoid growths in the naso-pharynx are the common causes of nasal obstruction in children and young people. These cases will frequently come before you in practice, and I will therefore explain their diagnosis. It is important that you should have some sort of an idea of the exact nature of these growths, of the means of ascertaining their existence, and of deciding how far their presence necessitates operation, or treatment by milder measures. The subject of adenoid growths has been handled in this country by the public and, I regret to say, by our own profession in a manner which one cannot pass over in silence. I have to remember now that I am speaking to an audience of young men who one day, I may hope, will have the command of practices and the guidance of patients, and that in the diagnosis of a malady like adenoid growths so many considerations of importance arise that it is difficult to know how best to speak of the matter. As usual, extreme views are often expressed, and are erroneous. On the one hand, there are those enthusiasts who demand operation for every child who "sniffs," who snores at night, or sleeps with his lips in the least parted. On the other, we have opinions expressed that these growths never need operating upon at all, and that if children are only trained to breathe through their noses, adenoid growths will disappear. Now you have to remember that a certain amount of lymphoid tissue is ordinarily found in the naso-pharynx of

delicate children. This readily swells and becomes œdematous from exposure to cold, dust, or other such conditions. If you hold that such a condition is pathological, you may operate upon almost every child you meet. Under the following circumstances the diagnosis of adenoids needing recognition and, perhaps, operation may be confirmed :—

1. The child is a pronounced “mouth-breather”—snores at night, has a bad voice and pronunciation, with attacks of deafness, and a general tendency to backwardness and stupidity.
2. The palate is depressed, the arch high and pointed, the upper incisor teeth and part of the maxilla prominent.
3. Attacks of “catarrh” are frequent. During their continuance the child evidently gets more deaf and the obstruction increases. The tonsils are generally also enlarged and ragged, and the pharynx is “granular.” Owing to the impossibility of clearing the nose, anterior dribbling of mucus is very common, with eczema of the nares and of the lip.
4. Attacks of “night-terrors,” with screaming and choking, are very frequent.
5. Examination with the finger detects masses of soft spongy growths in the middle line behind the palate, or on either side. The finger, when withdrawn, is smeared with blood and mucus.
6. The subjects are often pale and anæmic, with a tendency to glandular enlargements; the thorax is ill developed.

Now with such a train of symptoms as the above, you can have no doubt of the existence of adenoids, and, generally, of the necessity for operation. But, in practice, a number of cases will come before you where the symptoms are not so evident, and while one authority will diagnose adenoids and advise

operation, another equally eminent will declare they do not exist, and may, perhaps, deal with the dictum of his professional brother in those slighting terms, and with that petty spite and unpleasantness, so common and disgraceful in our profession, and which I only mention in the hope you will ever shun and avoid them. As I have pointed out to you, adenoids may be more evident when they are congested, as in a common cold, than at other times. Thus unfortunate differences of opinion as to the necessity for operation are very apt to arise, and the parents of the child grow more and more distracted as to what course to pursue. I am obliged to say that sufficient judgment and care are not always exercised in estimating the necessity for operations on cases of supposed adenoids. Educated and sensible members of the community know this well, and, to my shame and annoyance, the reproach of professional dishonesty regarding the matter of operations for adenoids has often been made in my hearing by important members of the public. I mention all this to show you how improper practice never succeeds in the end, and how it damages the position and reputation of our profession among the educated members of the public in a manner almost incalculable. I advise you to make a universal rule never to advise operation for adenoids unless they indubitably exist, and unless they are certainly causing troublesome symptoms. You will find, to your chagrin, that a certain number of patients will not be satisfied with this advice. Foolish parents will say the child still "sniffs, or breathes hard, or snores a little at night, so that all cannot be right," and they go about until they find someone who falls in with their views and does the operation. When the nasopharynx is scraped out they will be satisfied, and will indeed blame you for not having done what is really a needless operation. Such conduct as this is common enough, and is a direct incentive to surgeons to act with want of judgment, or worse. I often wonder how excellently, as a rule, members of our pro-

fession behave towards the public, when I consider the temptations the latter force upon them to act wrongly by their folly and stupidity. I feel sure that much of the difference of opinion that exists concerning the presence or absence of adenoid growths, in any given case, depends upon imperfect examination of the naso-pharynx in fractious children or highly nervous patients. If the rule of always examining such cases under anæsthetics were carried out, mistakes would be impossible. If the operation is not to be done at the time, nitrous oxide gas is quite sufficient. Guess work in diagnosis is always great folly. Unless you are accurate yourself, you will never be able to deliver opinions with that weight and firmness which alone will carry trust and conviction. If a patient will not let you manipulate the rhinoscope, or pass the finger behind the cocainised palate, you had better say at once that your examination is imperfect, and that you cannot say certainly whether adenoid growths exist or not. You may express an opinion one way or the other, or may urge the administration of gas for a proper and methodical examination.

I commend these remarks forcibly to your notice. None of you will have been in practice long before encountering cases of this nature, but so long as you act rightly, you act wisely in the end, and maintain that most valuable character of a professional man—"one who gives reliable opinions and acts for the true interest of his clients."

Congenital Narrowness of Nasal Passages.

I believe this to be a more important cause of obstruction than is generally recognised. Many persons, especially children, have small or narrow noses, and it is in these that slight adenoid growths, or enlargement of the turbinals, often cause symptoms which would not exist in those who have well-developed noses. The condition is an important one to recognise, because after such operations as removal of adenoids these patients seldom

breathe quite freely, and parents and friends are therefore apt to be disappointed at the result. I have known repeated operations to be done in such children until little remained but the septum and external walls of the nose. At the time of puberty, the nasal cavities, in common with other passages, commonly enlarge, and the right advice is to wait patiently for this natural relief removing adenoids or other evident causes of obstruction which may co-exist.

In association with this part of the subject, I may point out that infants sometimes suffer from symptoms of nasal obstruction. They are unable to suck without having violent "choking" fits, and they display much the same symptoms of difficult breathing as are found in adults. These symptoms are often promptly relieved by passing the finger behind the palate into the nares and thoroughly stretching the parts, without violence, at the same time detaching, with the nail, any small fragments of adenoids which exist. I regard this as a very important clinical hint, and I have on several occasions seen the greatest benefit result from this practice.

Hæmatoma.

A blood tumour of the nasal passages almost invariably affects the septum, and is commonly associated with a fracture of that part, immediately following a blow or fall upon the nose. It fluctuates distinctly, and may be bilateral, causing a formidable-looking swelling in both the nares. I have known this affection mistaken for tumours and other grave affections. Its sudden appearance after injury, its colour and fluctuation, are sufficiently diagnostic. (Plate I., fig. 1.)

Abscess.

When a collection of pus causes nasal obstruction, it is almost always found in the septum, and, not uncommonly, near

the anterior margin, associated with great swelling and œdema of the upper lip. An acute abscess near the outlet of the nares is very painful on account of the excessive tension of the parts. It frequently originates in a suppurating sebaceous gland. The redness, swelling, fluctuation, and obvious inflammatory symptoms make the diagnosis tolerably clear and easy. Abscess of the septum forms a fluctuating swelling, red, hot, and acutely painful.

The majority of these cases follow blows or other severe injuries to the nose, and are thus really suppurations of hæmatomata. When abscess of the septum is more chronic, it may be associated with necrosis of cartilage, and is then commonly dependent upon syphilis. A softening gumma of the septum is very like an abscess, the amount of solid material round the base of the swelling being, as already mentioned, the principal distinguishing feature. In fluctuating swellings about the septum, puncture with a fine trocar and cannula will sometimes be needful to accurately determine the diagnosis.

Foreign Bodies and Rhinoliths.

You will be astounded at the curious foreign bodies which certain individuals may introduce into the nasal passages. Children, hysterical girls, and lunatics may push into the nose such substances as stones, beads, peas, fruit-stones, an extracted tooth, a piece of slate-pencil, and the like—rolls of paper and pieces of wool are common enough. Rhinoliths, which are calcareous concretions formed of carbonate and phosphate of calcium, almost always have a nucleus of some foreign material. They are generally covered with blood or discharge, and sometimes granulation tissue, so that it is easy to mistake them for a morbid growth. The leading symptom of a foreign body in the nose is unilateral purulent discharge, streaked with blood.

If this persistently occurs in a child, the probability of the intrusion of a foreign body is very strong.

Foreign bodies and rhinoliths may lodge in any part of the nasal fossæ. I have generally seen them in the inferior meatus, and when the discharge is mopped away with wool, and the nose well illuminated, they come readily into view. In fractious children, administer an anæsthetic, and explore the nose thoroughly with your finger in the naso-pharynx and a probe in front. If you detect a foreign body, you will proceed to remove it at the same time. A good-sized probe is the best instrument for exploring the nose in this manner, and unless the examination be methodically done under anæsthetics, mistakes are sure to arise.¹

Contraction of Nares.

Cicatricial contraction of the nares is readily diagnosed. It usually follows operations for lupus or burns, and its treatment is fraught with difficulty, as I shall hereafter explain.

¹ In May, 1898, a boy, aged twelve, presented himself at the out-patient department of St. George's Hospital, with nasal obstruction on the right side, and a purulent discharge. On examination, a hard, black substance filled the nares; to a probe it felt calcareous. The mother stated that "years ago" the boy had put a cherry-stone into his nose, but she did not think that this occurrence could explain the present symptoms. The lad was anæsthetised, and the mass attacked with a scoop, the right forefinger being placed in the posterior nares. The calcareous substance broke down and came away in pieces. It was obviously a rhinolith. The nucleus became detached, and fell backwards against the right finger. It might readily have entered the air passages had the patient been supine, and no finger guarding the posterior nares. As it was, the lad being in the side position, the mass was seized with a forceps and withdrawn anteriorly. It was a cherry-stone, friable and blackened by age, and surrounded with gritty material. How long it had existed in the nose was difficult to ascertain, but it formed the nucleus of a rhinolith quite the size of a large almond.

Synechiaæ.

Adhesions between the turbinals and the septum are usually the result of operations, especially with the cautery. If two ulcerating surfaces are left opposite one another, adhesions readily form across. The condition is quite easy to recognise. You illuminate the nose anteriorly, and a pink or whitish band comes plainly into view stretching across the nose. It is a most troublesome condition, but, as it is exceptional, I shall not further deal with it. I have on two occasions known complete osseous occlusion of one nasal passage; this was detected posteriorly during operation for adenoids. It is a rare but important cause of obstruction. The treatment is difficult, and is best carried out by means of a slender and long trephine.

If you are acquainted with the general principles of diagnosis, a consideration of the symptoms I have discussed in this lecture will enable you, in all cases likely to occur in practice, to give an opinion as to their nature, and, therefore, to indicate the approximate treatment.

LECTURE II

THE TREATMENT OF NASAL OBSTRUCTION

Treatment of Septal Deformities and Outgrowths—Asch's Operation—General Remarks on Septal Operations—Anæsthetics in—Hæmorrhage after—Treatment of Bony Thickening—Removal of Turbinals—Removal of Posterior Ends of Turbinals—Hæmorrhage after—Chronic Laryngitis as a Sequel—Treatment of Hypertrophic Rhinitis—Caustics—Galvano Cautery—Gummata of the Nose—Similarity to Cancer—Treatment of Hæmatoma and Abscess—Treatment of Adenoid Growths—Importance of the Anæsthetic—Posture of the Patient—Performance of the Operation—Hæmorrhage—Abnormal Vessels in Naso-pharynx—Treatment of Adenoids associated with other Conditions—Complications and Dangers of Adenoid Operations—After-Treatment—Treatment of Cicatricial Contraction of Nares.

IN the previous lecture I called your attention to the diagnosis of the more important causes of nasal obstruction, and the leading features by which they could be severally recognised. We now go on to discuss the treatment of these conditions. I have told you plainly that I consider the supposed evil consequences of nasal obstruction have been much exaggerated, and that careful surgical judgment must be employed before determining that operation is needful. Let me again remind you that some of the leading indications for operating are deafness, and aggravation of such chest affections as asthma and bronchitis. Mouth-breathing, snoring, attacks of catarrh, laryngeal troubles, faulty pronunciation, and mental stupidity are additional arguments in favour of operation. All such conditions, separately or combined, may in certain circumstances necessitate treatment by operation. Also, you will especially

recollect that when two or more causes of nasal obstruction co-exist, though they may separately be slight, yet collectively they induce symptoms which may need operation.

Treatment of Septal Deformities.

Affections of the septum form a large proportion of cases of nasal obstruction and, when combined with adenoid growths of

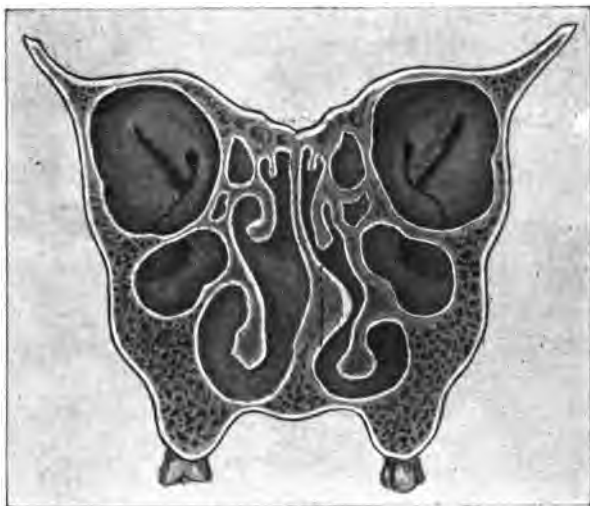


Fig. 8.—ANGULAR DEFORMITY OF SEPTUM. LINE OF SECTION.

the naso-pharynx, one affection aggravates the symptoms of the other, so that slight degrees of septal deformity may, under these conditions, need recognition and treatment.

The variations of septal deformity may be made numerous ; but for purposes of treatment they may well be divided into :—

- (1) Distinct spurs or outgrowths.
- (2) Angular deflections or projections, especially the so-called S deviation.

- (3) Obtuse bending.
- (4) Actual dislocation.
- (5) Combination of two or more of these conditions.

As a general rule, I may say that I have found difficulty in treating any case of septal deformity when a portion of the deformed cartilage could not be actually removed. Accordingly, in the first two varieties, treatment is usually more satisfactory, because the obstructing portion of tissue may be bodily taken away. In the case of an angular deformity, I always, if possible, reflect a flap of mucous membrane and shave off the projection with a sharp scalpel, the flap being supported by a celluloid

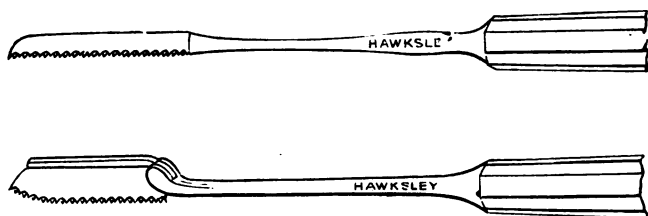


Fig. 9.—FINE SAWS, FOR REMOVING BONY OUTGROWTHS.

splint, afterwards introduced. Only a minute perforation results, and this is of little consequence, even if it be not entirely covered over by flaps of mucous membrane.

A scalpel, if narrow in the blade and strong, is usually sufficient to remove distinct spurs or outgrowths. Sometimes these formations are bony, and then a fine saw may be used with advantage. The saws sold in the shops are usually far too strong and coarse in the blade. My own instruments are so fine that the blade bends easily; this is an additional advantage, because the line of incision, by slightly bending the instrument during the sawing, may be curved, following the contour of the nostril. No illustrative cases need be given of these little

operations, which are generally easily performed. The difficulty is to know exactly how much to remove.

In angular deformities it is a general rule that if a projecting part of the cartilage can be removed bodily, a better result is obtained than by any bending or fracturing operation. The latter operation is fraught with this great difficulty:—the resiliency of the cartilage tends to make it spring back persistently into its old faulty position, and the fracturing of the cartilage so as to make it limp and readily moulded, though easy enough to talk about in theory, is most difficult to accomplish in practice. At one time I performed a considerable number of these operations; but on taking the trouble to follow them up over some years, I was disappointed to find that, though improvement was obtained in a certain number of cases, relapse was common and complete rectification very exceptional. It is all very well to tell your patients that they must wear such-and-such a splint and insert various plugs into the nares. They may do it under your eye, but once your back is turned, the painfulness and discomfort will cause them to discontinue such tedious treatment. I began to think that my method of operation was at fault, but after a time I encountered cases which had been operated upon by those very surgeons who most strongly recommended the breaking or bending operations. Their final results were no better than my own. I came to the conclusion, therefore, that bending or breaking operations on the septum were, as a rule, anything but satisfactory in the ultimate results. The only operation, of any avail in these cases, must be designed either to remove portions of cartilage or to permanently displace them from the convex obstructed, towards the concave non-obstructed, nasal passage.¹

¹ It is only right to point out that these statements are the result of my own personal experience. For instance, Dr. Tansley of New York, in the Transactions of the American Otological Society, May 4, 1897, describes an

The displacement of part of the cartilage may be accomplished in various ways, but it is essential to remember that the septum must be actually broken or divided, not merely bent over. Unless very thoroughly done, relapse is certain.

Asch's Operation.

In the *New York Medical Journal* for 1890 this proceeding is described. The results of it are better than those of any other operation for extreme obtuse septal deflection. The peculiar scissors are introduced so that the blunt blade is on the convexity and the cutting blade in the concavity of the deformed septum. The mucous membrane on the convexity is not divided. Cuts are made vertically and horizontally, so that the septum is divided into triangles, the apices of which are situated at the summit of the convexity. These are forced into the concave nares and well broken at their bases, so that they feel as though merely held by the mucous membrane. A celluloid tube splint is inserted along the formerly obstructed passage. In my own cases, the splint has been worn continuously for at least fourteen days, until the parts begin to heal in their new position, but other operators change the splint frequently. I have, in the last two years, operated by this method in six bad cases, and the results, though indeed not quite perfect, still were exceedingly good, for the operation gave the patients free respiration through a previously obstructed nasal passage. The introduction of a celluloid splint, to be continuously worn, is my own modification. The shifting and changing of splints is painful, and I cannot see its object. The unsightly operation where the cartilage is undivided, and merely moulded by the fingers. It is this class of operations in which I personally have had little success. I cannot but think that those operators who claim good results for "bending" operations on the septum have not afterwards watched their cases for the requisite time.

deformity of the nose, often associated with septal curvatures, is not cured by the operation, which is only intended to relieve the obstruction.

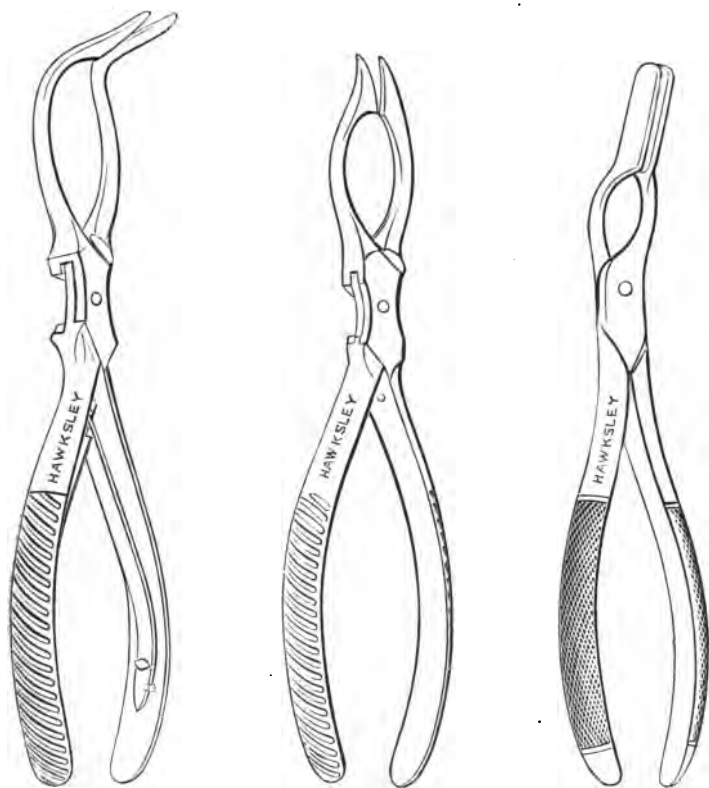


Fig. 10.—ASCH'S SCISSORS AND FLAT SEPTAL FORCEPS.

Various flap operations are also devised. The flap containing cartilage and mucous membrane is pushed over into the concave nares, and held there by an appropriate splint introduced on the convex side. Afterwards, when healing has occurred, any redundant portion in the concave nares may be removed. The operations described are exceedingly numerous, especially

in America. A common drawback is their difficulty, which makes one doubt if even their inventors always succeed in per-

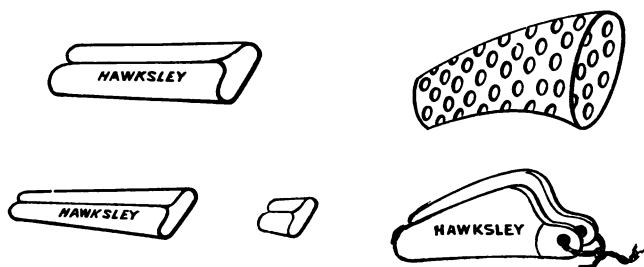


Fig. 11.—CELLULOID AND OTHER INTRA-NASAL SPLINTS.

forming them. I am sure that mere imitators would certainly fail. If there be much external nasal deformity, as in Fig. 6, p. 19, the cartilage may be well wrenched towards the

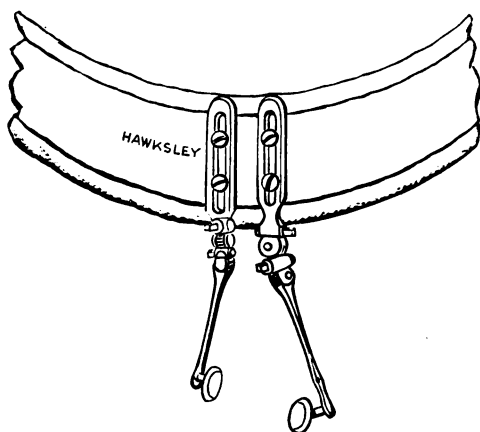


Fig. 12.—NASAL TRUSS FOR USE AFTER OPERATIONS FOR DEFLECTED SEPTUM, WITH EXTERNAL DEFORMITY.

opposite side after the cutting operation is concluded. A nasal truss must be perseveringly worn afterwards, especially at night.

General Remarks on Septal Operations.

These operations are not easy to perform so as to leave a good result, and it is most difficult to hit the medium between doing too little and doing too much. As a rule, the novice will be surprised at what a large portion of cartilage may be removed in angular deformity, and yet how insignificant the perforation may be which ensues. Some few of these operations may be done under cocaine, but general anæsthesia is usually essential, and preliminary painting with five per cent. cocaine diminishes hæmorrhage. I have used the aqueous solution of suprarenal extract in several of these cases, with good result in checking bleeding, and if combined with five per cent. cocaine, the anæsthesia of the latter drug seems to be intensified. Nitrous oxide gas, or gas and oxygen, suffices for removal of a slight nasal spur. For the more elaborate septal operations, prolonged anæsthesia is needful. The reclining position in a chair is most convenient, and a good light, reflected or direct, is essential. A gag should be placed in the mouth at the commencement of the operation, and the anæsthetist must be prepared to cope with a sudden and very profuse flow of blood into the posterior nares. He should be provided with four sponges of loose texture; these should be fixed in forceps, not put in "holders," which generally allow the sponge to slip. Better still, they may be used with the hand alone. An experienced anæsthetist is essential in intra-nasal operations. With a timid or inexperienced administrator, blood is apt to get into the air-passages, and the patient may be allowed to partly regain consciousness. Then violent struggling will ensue, and the operation will probably be incompletely performed or degenerate into a "surgical encounter." For these cases I prefer gas and ether, followed by chloroform.

The following is a good example of Asch's operation on deflected septum:—

A man, aged twenty, was admitted into St. George's Hospital on November 18, 1898. There was obvious nasal deformity, and the septum was obtusely curved, so that the convexity touched the outer wall of the nose on the right side. Obstruction was complete. A probe could hardly be passed between the septum and turbinal. There was a deep concavity on the left side. No adenoid growths were present. On November 26 Asch's operation was performed. Two horizontal cuts were made along the cartilage, above and below, with a vertical cut at right angles to them. The segments of cartilage were pushed with the finger well into the concave nares, and a celluloid splint was inserted. This was worn continuously for three weeks, and the parts kept clear of blood and discharge by boric acid lotion. On withdrawal of the splint the parts permanently assumed their new position. Perfectly free nasal respiration was present on the right side. The curvature of the nose towards the left was much the same. I saw this patient twelve months afterwards, and his improvement was permanent; the external deformity was but little improved.

The supporting splints usually check all hæmorrhage, which, though temporarily profuse, is seldom continuous. Some difficulty is experienced in the sterilisation of the fine saws and knives used in nasal surgery. My own practice is to wipe them over with pure liquefied carbolic acid, and then to place them in a shallow dish of 1 in 10 solution of carbolic acid in rectified spirit, where they remain for half an hour. After use they are carefully scalded and cleansed. Prolonged boiling is ruinous to the temper of fine blades and, though very desirable, cannot be carried out. The operator should most carefully plan the exact operation he is going to perform before he commences it. If the steps of procedure are clearly in his mind, all delay and uncertainty will be avoided. He will do well, in planning the position of incision, not to be too much tied to any fixed rules. There is ample scope in these cases for ingenuity and, as the deformities are so varied, modifications of operation are almost essential. In some few cases, profuse and even dangerous hæmorrhage may occur after cutting operations on the septum.

The best safeguard against it is the continuous wearing of celluloid splints after the operation. I would always trust to local pressure in hæmorrhage after nasal operation, rather than to internal remedies. The upright position in a chair should always be maintained in a case of nasal hæmorrhage, and the patient's feet may be immersed in hot water or wrapped in hot cloths as far as the knees. Plugging of the nares should seldom be resorted to.¹

Treatment of Bony Thickening and Hypertrophy.

Mistakes in diagnosis are frequently made in connection with this subject, areas of swollen or hypertrophied mucous membrane being confused with true bony enlargement. Remember to use a five per cent. solution of cocaine as a diagnostic help. The shrinkage which ensues is remarkable, and you may thus judge whether treatment should be directed to the mucous membrane alone. In a certain number of cases, far fewer than is generally believed, the bones, especially the inferior turbinals, are at fault. They are displaced or deformed, a prominent irregular scroll or cleft portion actually touching the septum. Another very important condition affecting the turbinals is hypertrophy of their posterior extremities, which may form large obtuse prominences, almost completely closing the nares behind, and interfering with the Eustachian orifices.

Again, I have advised and performed removal of the turbinal in cases where repeated cauterisation and other treatment have failed in producing permanent reduction of the

¹ In septal operations when the bleeding is at all severe, it is most useful to place a round sponge of coarse texture into the naso-pharynx, before the operation begins. This is firmly fixed in a clamp forceps, which is allowed to hang out of the mouth. The palate retains the sponge in position, and no blood reaches the air passages, while the sponge is readily removed or shifted by means of the forceps. This manœuvre is a most useful one in all intra-nasal operations associated with bleeding, when the patient is in a chair.

thickened and indurated tissues. In bad cases of nasal polypi, removal of the inferior turbinals is a most useful aid to treatment, enabling one to reach the upper part of the nose and affording free drainage. I have several times seen the turbinals displaced by the rough and injudicious use of the forceps in the removal of nasal polypi. The bones may be partially torn away or displaced almost vertically. Much obstruction is then caused, and the mass needs removal with the ring knife or a pair of fine curved scissors.

The bones may be removed in a variety of ways. The old-fashioned and, perhaps, rather rough-and-ready plan was to wrench them off with forceps. I do not recommend this. They

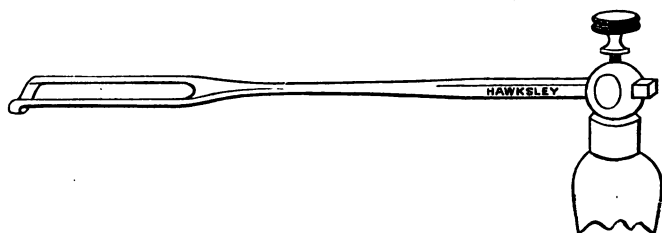


Fig. 13.—RING-KNIFE FOR THE REMOVAL OF TURBINALS.

may also be removed by cutting along their attachments with a fine flexible saw. I have observed after this operation that violent neuralgia about the teeth is sometimes occasioned, and I now seldom employ it. The form of ring-knife here sketched is perhaps the most convenient. This instrument, having been passed along the floor of the nose into the pharynx, is hitched over the end of the turbinal, and the whole bone is severed by pulling the knife slowly forwards. The advantage of the ring-knife is that, with it, the surgeon can modify the amount of tissue to be removed. In many cases a superficial section of the bones is all that is required to remove redundant mucous membrane, a mere slice being taken away. Some surgeons employ long curved

scissors ; others, instruments cutting from in front—as variously shaped sharp gouges. The hæmorrhage is always brisk, but usually it soon ceases spontaneously. If the operation is performed in the sitting position, a gag must be placed in the mouth as a preliminary measure. On the completion of the operation the head must be well bowed forward, and the anæsthetist should

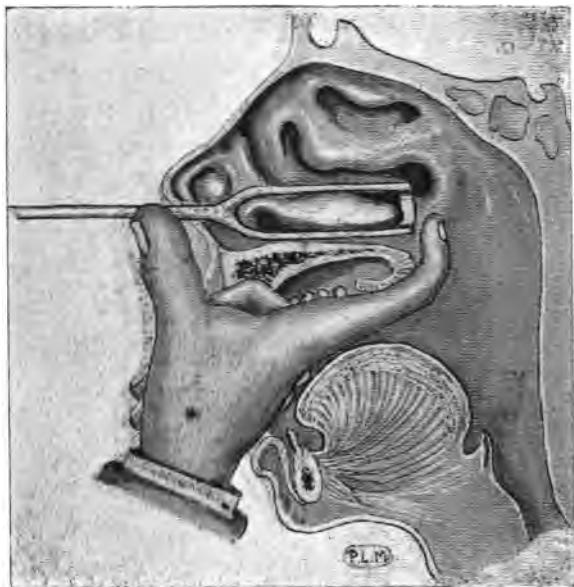


Fig. 14.--THE RING-KNIFE IN POSITION FOR THE REMOVAL OF AN ENLARGED TURBINAL.

clear the pharynx with a large coarse sponge. One of the safest postures for this, and other intra-nasal operations associated with profuse bleeding, is on the side, with the head brought well to the edge of the table.¹ Should the bleeding be persistent the nares must be plugged. This may be done in the usual way

¹ In reference to this important point, see a paper by Dr. Hewitt and myself on "Posture in Surgical Operations," *Med. Chir. Trans.*, Vol. LXXIX., 1896.

with two small Turkey sponges covered with powdered boric acid. A strip of iodoform gauze is introduced anteriorly. The plugs should never remain in more than twenty-four hours, and seldom longer than twelve hours. Unless the bleeding is very severe and continuous, this proceeding should never be adopted. There is always a risk of the middle ear becoming inflamed from nasal plugs. The inflating tampon of Cooper Rose is also very useful in cases of hæmorrhage.

Removal of the posterior ends of the turbinals requires a special description. Careful examination will often show, in these cases, that the main mass is composed of soft vascular and greatly thickened mucous membrane, and, when this is the case, caution must be employed in cutting off the protuberances with

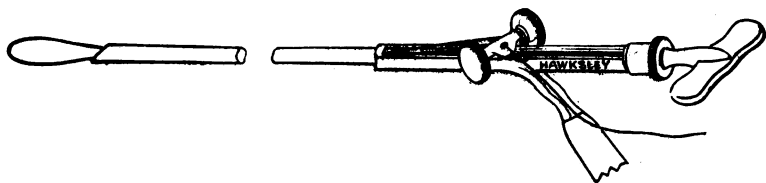


Fig. 15.—ÉCRASEUR SNARE FOR REMOVAL OF POSTERIOR TURBINAL HYPERTROPHY.

a sharp ring knife. Bleeding into the naso-pharynx is, in these cases, very embarrassing, and too much care cannot be taken to avoid it. A useful manœuvre is to pretty deeply notch the base of the prominence with a ring knife, and then to pass a stout steel wire loop through the nose and manipulate it round the portion to be removed. I have devised several fine écraseurs for this purpose. The instrument is worked slowly, and the part crushed, rather than cut off. Hypertrophic enlargement of the posterior ends of the turbinals is a more common cause of nasal obstruction than is generally known or recognised. It is frequently combined with adenoid growths. The prominences are not easy to engage in a snare, unless a notch be cut in the bone for the wire loop to bury itself in. Generally speaking, these operations are

safe. The danger of hæmorrhage must always be present, and, having been called to some of these cases after operations by those who work specially in these forms of surgery, I can say that experience does not always ensure its avoidance. Too free cutting of vascular masses in the naso-pharynx is decidedly to be deprecated. Seldom, if ever, does sepsis occur as a sequel to removal of the turbinals. I always have the nose gently washed through with warm boric fluid by means of a piece of soft tubing which does not fill the nares tightly, and is adapted to the end of the syringe. A mask is worn over the face for the first few days, similar to the



Fig. 16.—TURBINAL HYPERTROPHY ENGAGED IN THE SNARE.

ordinary chloroform inhaler, and upon this a few drops of carbolic acid and creosote are sprinkled. I must also point out that scarlet fever or diphtheria is very apt to infect a wounded surface in the nose, and no medical man who is attending such cases should go near nose or throat operations. The sanitation of the room is also of importance. In the surgery of adenoid growths these matters, though of paramount importance, are too often neglected. Removal of the turbinals should not be a "routine" operation. I always try to avoid it by treating the mucous membrane. The inspired air after this

operation is not quite warmed, and dust and other foreign substances gain access to the larynx. Hence this operation has been blamed for causing subsequent chronic laryngitis.

Bony prominences about the floor of the nose may, in exceptional cases, be so considerable as to need removal. This is seen in its fullest extent in hyperostosis of the bones of the face, in which affection the nares may become greatly obstructed. No fixed rule can be laid down for the treatment. It may be possible to cut out the protuberance with a fine saw. A hard trephine may also be of use, and small trephines worked by a powerful dental engine are of great utility. The electro-motor trephine cuts with extreme rapidity, and needs corresponding caution. I prefer a powerful dental engine as being more under control. These operations may be very tedious, and the aid of a skilled anæsthetist is essential. In one or two cases I have removed a bony enlargement with a fine gouge and mallet. The surgeon should be very sure that these bony "lumps" are causing inconvenience and trouble enough to justify their removal.

Treatment of Hypertrophic Rhinitis.

This is one of the commonest conditions which produce nasal obstruction, and its treatment is, therefore, a matter of considerable importance. Some of the worst instances of it are found in young women and girls who suffer from anæmia and menstrual troubles. The affection is aggravated by cold, damp, and dust. The London winter climate is a great producer of this affection. Numbers of sufferers from this malady lose it at once on going to the sea-side or to the Riviera. Before considering operative measures, the general health must be carefully attended to. Iron, quinine, and arsenic are all useful internally, and "Levico water," which contains iron and arsenic, is a favourite prescription of my own. Locally, astring-

gent and sedative sprays, such as sulphate of zinc and borax, hazeline, or menthol and camphor, in combination with paroline, are beneficial. Cocaine gives marked and immediate relief, but this is transitory, and stronger and stronger preparations have to be employed. The sufferers from this nasal affection are often distinctly neurotic, and great caution must be employed in prescribing cocaine for self-use lest the disastrous condition of "cocaine habit" be induced. I have seen at least three cases where absolute moral ruin has been the result of using this drug for nasal obstruction, and I am surprised that it is so often recklessly prescribed in practice.

In the year 1897-1898, I several times saw a lady who, before marriage, begged me to operate upon her nose to improve the "timbre" of her voice. She had a slight curve of the septum. I advised no treatment. As is usual in this kind of patient, she at once sought other advice, and a surgeon removed a small piece of the septum, and ordered her to insert an ivory splint. As this caused pain, a four per cent. solution of cocaine was provided for her use, and here the mischief commenced. This patient became a confirmed cocaine taker. She would drink it, and apply it to eyes and nose freely. Intolerable itching sensations arose in the nose, and to relieve these, forceps were continually employed, until the whole of the septum was picked away. All the usual cunning and subterfuge, that we are familiar with in the similar case of alcoholics, were employed in obtaining the drug. She would bury the cocaine in the garden, or conceal it in the flocking of a mattress. I made every effort to improve this most unhappy case with temporary benefit. Relapse occurred time after time. At last, I insisted upon her entering an institution where such cases were treated, but she refused, and was withdrawn from my care.

Numerous caustic preparations are in vogue for hypertrophic rhinitis. Perhaps the best is chromic acid. The nares being prepared with a ten per cent. solution of cocaine, a "bead" of

the acid fused on a probe is well applied to the swollen tissues, and, if possible, thrust a little way into them. Several applications at intervals are often required, and if the case be a bad one, the remedy will often prove insufficient. In the intervals between the applications, the parts should be well sprayed with boric acid and kept very clean. Severe sneezing often follows the application of the acid, and this may be difficult to check. Ethylate of sodium, perchloride of iron, acetic and nitric acids, and nitrate of silver, each has its votaries, but I have seldom used these agents. If caustics be employed at all, I think chromic acid is the best. It may be fixed as a bead on a fine probe.

Galvano Caутery.

The application of the electric cautery is *par excellence* the remedy for hypertrophic rhinitis. The nose should be well cocaineised, and the swollen tissues over the turbinals cauterised with care. The instrument should be kept at a dull cherry red, not a white heat. There are many ways of applying the instrument. I usually make a series of deep, parallel scores from behind forwards, and in bad cases the proceeding must be several times repeated—some weeks' interval being given after each application. A good deal of reactionary swelling follows this operation, with profuse discharge of mucus. In very vascular cases, also, considerable hæmorrhage may be provoked if the platinum electrode be at a white heat. Especial pains must be taken not to burn the septum nasi opposite to the turbinal. If this be done, a synechial band, most difficult to get rid of, will certainly subsequently form. The best instrument to use as a speculum should have one arm coated with ivory to protect the septal side. It is well to explain to the patient that he must not look for the full benefit of cauterisation of the nose under three weeks or a month. The immediate effect of the operation is often to increase the swelling and discomfort, and

the discharge of mucus may be very profuse. The only after treatment I adopt is care in sanitation and exposure, and the spraying out of the nose with boric lotion or "Listerine." Clots, or portions of necrosed membrane, may from time to time be gently removed with wool and forceps. The relief given by this operation is quite striking, but in a certain number of cases relapse occurs, perhaps in the following winter, from fresh exposure to damp, fogs, and cold. In such cases, if the cautery fails, change of climate, or removal of the anterior portions of the turbinals, is the sole means of procuring alleviation. Many morbid conditions may be associated with hypertrophic rhinitis. Such are nasal spurs, adenoid growths, and especially mucous polypi. The latter condition is so important that it must be dealt with in a special lecture. I would again repeat the caution not to let the discovery of one nasal malady blind you to others. This is a most common mistake in the treatment of nasal affections. Thus, a surgeon removes a polypus and quite overlooks hypertrophic rhinitis; or adenoids are removed, and a displaced turbinal touching the septum is quite ignored.

Caustics, as chromic acid or the galvano cautery, can also be applied to hypertrophied tissue on the posterior end of the turbinals. Great care must be taken of the Eustachian orifices, and the directions usually given are not easy to follow. The cocaineised palate is drawn forward by an elastic band or a palate hook, and then, guided by the rhinoscope, acids or the cautery are applied to the swollen tissues. I have repeatedly tried this manipulation, and I have never succeeded well with it. For this reason I advise that, when the posterior ends of the turbinals are really enlarged, they should be totally removed by snare, ring-knife, or scissors.

Treatment of Gummata of the Nose.

This condition is exceedingly common in bad cases of late syphilis, and is the cause of the repulsive deformity of the nose,

so often seen in the lower classes of the population. The septum, turbinals, and ethmoidal region all alike suffer, and necrosis is the common associate and sequel of gummatous periostitis of the intra-nasal bones. These shocking cases are familiar enough. A terrible stench emanates from them. The nose is full of ash-coloured sloughs and crusts, with masses of decayed and displaced bone, while the patient—exhausted by sepsis and the syphilitic virus—is deathly pale and listless. The treatment of these cases is obvious. A powerful syphon douche is employed, with deodorising agents, especially “Sanitas,” carbolic acid, and ten per cent. solution of hydrogen peroxide. The risk of affecting the middle ear by the douche I generally ignore in these distressing cases. A favourite remedy of my own is a strong solution of bicarbonate of soda with carbolic acid. When the discharge and crusts have been washed away, I douche with biniodide of mercury, 1 in 1000, and tamponade with pledgets of wool soaked in iodoform emulsion. Finally, one removes with scoops and forceps all the loose masses of bone and granulation tissue. The cavities heal well if plugged with a “kite-tail” tampon of glycerine and iodoform.

Iodide of potassium and iron, with cod-liver oil, must be administered internally, and time, with nourishing diet, greatly helps convalescence. These cases are very distressing, and it is well to inform the patient that deformity of the nose almost invariably ensues. The cases, however, I especially want you to observe, are those where gummatous swellings and masses form and simulate more serious disease. Ever have these present to your mind. A large firm swelling on the septum is very likely to be a gumma, and sometimes gummata form on the nasal bones, and the tissues of the face over them become dusky in colour and infiltrated, so that a casual observer may easily take the case to be cancerous. I have seen the most dangerous-looking swellings and tumours disappear under iodides, and you have to remember that these remedies are always worth

a trial in cases that admit of doubt. Formidable operations have been done on the nose and jaws, in these cases, by surgeons who do not know enough to estimate the doubts and difficulties which hang round so many of our professional problems. Such mistakes should not occur.

Treatment of Hæmatoma and Abscess.

The diagnostic features of hæmatoma and abscess have been given. They are treated on ordinary surgical principles. The most formidable blood tumours on the septum will usually absorb if left alone. If suppuration occurs, incision and evacuation are urgently needed. Abscess of the septum is often mistaken for a softening gumma. After incision, any slough or necrosed portion of cartilage must be removed with care.

Adenoid Growths.

I shall conclude this lecture with remarks on the treatment of adenoid growths, and, as this subject is so common and important, I must ask your close attention to it. I have dwelt upon the diagnosis of these growths, and I cannot too much impress upon you the methods of being absolutely sure as to whether they exist or not, and of carefully and honestly estimating whether operation is really needful.

In the first place, when considering the treatment of these common formations, you must recollect that lymphoid tissue is found in three principal positions in the naso-pharynx. First, there is a mass posteriorly in the back of the pharynx, and your finger impinges upon that as it passes upwards. Next, on either side, in the so-called fossæ of Rosenmüller, tongue-shaped masses may be felt obstructing the orifices of the Eustachian tubes—a certain amount of lymphoid tissue, as I have told you, is common enough here in delicate children. Enlarged tonsils and a granular state of the pharynx are often associated with adenoids,

and frequently occur together with the condition known as hypertrophic rhinitis. Before, therefore, you resolve upon an operation for adenoids, make up your mind, by a most thorough and elaborate examination of the case, exactly as to what has to be done and how to do it. I am constantly seeing children in whom adenoid growths have been operated upon, whose parents are disappointed with the results, because some other obstructive condition which co-existed has been overlooked. Next, recollect that though the treatment of adenoid growths is as safe as anything in surgery, still, that disasters have occasionally happened in connection with them, and that these have usually been associated with some definite fault in the giving of the anæsthetic, in the performance of the operation, or in the failure to detect a serious constitutional defect such as the hæmorrhagic diathesis. I must especially remark that fatalities have been due to the anæsthetic, the administration of which is, in my judgment, quite as important a matter as the operation.

I may also forcibly point out to you that these cases differ much in difficulty and severity. Tough fibrous adenoids in a young adult are difficult to extirpate, and the operation is often attended with very severe bleeding. Abundant adenoids in a young and delicate child, associated with much hæmorrhage, also need careful management, for such a child may suffer severely from shock.

As regards operating for adenoids without anæsthetics, it is a proceeding I do not like. If you think that you can properly extirpate these growths by a few frantic scrapes with your finger in a struggling, screaming child, you are much mistaken; and this method has little to commend it, either on surgical or humanitarian grounds.

Before, therefore, undertaking one of these operations, you have to determine :—

- (1) The exact extent and scope of the operation needful.

- (2) The general condition of your patient and his after surroundings as to sanitation or exposure to such affections as scarlet fever or diphtheria.
- (3) The employment of a competent anæsthetist.

Unless you can determine all these matters confidently, you had better leave the case alone—you will get little credit out of it, and you may get great blame if the after results are imperfect and unsatisfactory.

The Anæsthetic and its Administration.

The greatest differences of opinion are observable on this important matter, and, when we find surgeons of equal intelligence and capability differing, it often happens that they are really all right, and that with a skilled administrator probably any of the ordinary agents can be satisfactorily administered. You will not always have a skilled anæsthetist at your "beck and call," and hence it is desirable that I should inform you as to what I consider to be the safest modes of administration for those whose experience is moderate. I must tell you at once that an inexperienced person should never give anæsthetics for these cases. Either the anæsthesia will be so slight and inefficient that the operation will be imperfectly done, or so deep that danger to life from chloroform syncope may become imminent. Disasters in cases like these are very distressing. They may fill you with life-long remorse, and, in a country town, rely upon it, your fellow-practitioners, thirsting for patients and practice, will not act too generously towards you if you meet with a fatal anæsthetic case. One such fatality may ruin your reputation and practice, and you may be years in regaining the confidence of the public in your immediate neighbourhood. You will find that the parents fear the anæsthetic, not the operation. They are right. It is not a nice thing for any medical man to be referred

to "as the doctor who gave Mrs. G.'s baby too much chloroform." I mention all this to show how warily you must walk, for the paths of an operating surgeon are strewn with pitfalls into which the confident and secure readily fall. I much regret to say that there are many men who require the experience of a fatality to awaken them to a proper sense of the deep responsibilities which surround the administration of anæsthetics.

Supposing you have determined to operate, and the patient is a child, say of ten or twelve, fairly strong and well developed. In such cases you cannot do better than give gas and ether. Take plenty of time, and place the patient well under the influence, and then continue chloroform administration by means of a Junker's apparatus for four or five minutes. The excessive vascularity relieved by the ether subsides, and should the operation be prolonged, anæsthesia is easily maintained by chloroform used with Junker's apparatus. I have never seen dangerous symptoms induced when chloroform is given after ether in this manner. Dr. Hewitt also usually employs this method, and has administered for me on so many occasions and for so long a time that I look upon the method as safe, certain, and satisfactory.¹

In very young and delicate children I have seen the freshly-made A.C.E. mixture act well, when given in a cone with plenty of air. This mixture has been much condemned because

¹ Very seldom do we find complete obstruction to nasal breathing from adenoid growths; and, indeed, nasal respiration can hardly be taken as a test of the amount of growth present. On May 12, 1899, I operated upon a little girl aged eight, a patient of Dr. Charles Phillips. Her tonsils had been previously removed, and there was a history of troubles under the anæsthetic. This child had complete nasal obstruction, and was quite unable to breathe when the mouth was closed. The back of the nose was "stuffed" with unusually firm and fibrous adenoid growths. These were with difficulty cut away with the steel nail. Dr. Hewitt administered the A.C.E. mixture, followed by chloroform in this case, as he regarded it as one very unfit for gas and ether. Like all surgical cases, these need study, and no routine anæsthetic can be administered.

of the different rates of evaporation of the ingredients. It must be given with as much care and precaution as if chloroform were used. At Waterloo Bridge Hospital for Children, I have employed this agent for years, and have every reason to be satisfied with it. There can be no doubt that chloroform, carefully given by an experienced person, answers well for cases of adenoids in the young. It must be administered, however, with the greatest caution. If a delicate child is deeply under chloroform, and a sudden loss of blood, as from vascular adenoids or large tonsils, be induced, serious collapse may supervene. Some of the few fatalities of adenoid operations have occurred in this way from the anæsthetic, not the operation; and, personally, I object to chloroform as the sole anæsthetic for throat and nose cases in children. I believe it is only safe when given in the later stages of ether anæsthesia.

There is a prevalent but most unfortunate belief that chloroform is a safe anæsthetic for children. This is anything but true. Young children may quite suddenly show symptoms of chloroform syncope. I believe in the majority of cases that this is due to overdose and faulty administration. Not one medical man in twenty leaves his hospital really experienced in giving anæsthetics. This is a sad reflection upon our modern system of education, where the demands of sciences, really ancillary to medicine, absorb time and energy which should be devoted to practical clinical studies. I have witnessed four chloroform deaths in young children, and have seen several just saved from the jaws of death by inversion, artificial respiration, and the like. When you are setting out with a light heart to give chloroform to the children of your private patients, in what are foolishly called minor operations, I hope you will keep these remarks of mine prominently in your mind.

I need hardly say that all precautions as to loose teeth, removal of restricting clothes, and the avoidance of food in the

stomach must be rigidly observed. The best time for operating is usually early in the morning, when the stomach is quite empty. I may conclude these remarks by saying that I see no advantage in short anæsthesia for adenoids. These operations, to be done thoroughly, must be done methodically, and without hurry. In a very young child with soft and friable adenoids



Fig. 17.—THE SIDE POSITION FOR ADENOID OPERATIONS, WITH MASON'S GAG INSERTED.

which may be readily scraped away with the finger-nail, gas, or better, gas and oxygen, are sufficient. Only under these circumstances would I employ anæsthetic agents whose effects are transitory. The performance of this operation in a few minutes, with dramatic flourishes of forceps or curettes, has little to recommend it.

Position of the Patient.

Here, again, much difference of opinion exists. Some surgeons adopt the sitting posture, and bend the patient forwards; others prefer the supine posture, with the patient's head well thrown back, and his neck extended over the back of the table; others allow the patient to remain perfectly flat, and trust to dexterous sponging to clear the air-way from blood and portions of growth. Personally, I believe the position of greatest safety is on the side. The patient's head is brought quite to the edge of the table, and his buttocks are drawn towards the opposite side. All the blood flows into the dependent cheek, and thence into a sawdust tray. There need never be the least anxiety about the air passages in this posture. The blood and fragments of soft growths are directed away from them, and it is not even requisite to sponge. After-sickness is also much avoided by this posture, the patient not swallowing large quantities of blood and mucus. You must be careful to provide a good strong gag, and the parts which rest upon the teeth must be protected with pieces of india-rubber tubing, which, remember, must not get loose and fall into the mouth. Unless care be taken, the teeth of children may be knocked out by an unprotected gag roughly used, and the mothers will afterwards very strongly resent this. Also be sure that all sponges are either held in your hands or in a firm clamp forceps. Avoid patent "holders." The sponges slip from them in the hour of need. Nothing is more embarrassing than to see a zealous assistant sponging a throat full of blood, and adding to the trouble by bringing out his sponge-holder minus the sponge! The latter has at once to be "fished" for; if small, it may pass into the air passages. I once nearly lost a patient from this trivial carelessness on the part of an assistant, and I, therefore, think it right to caution you.

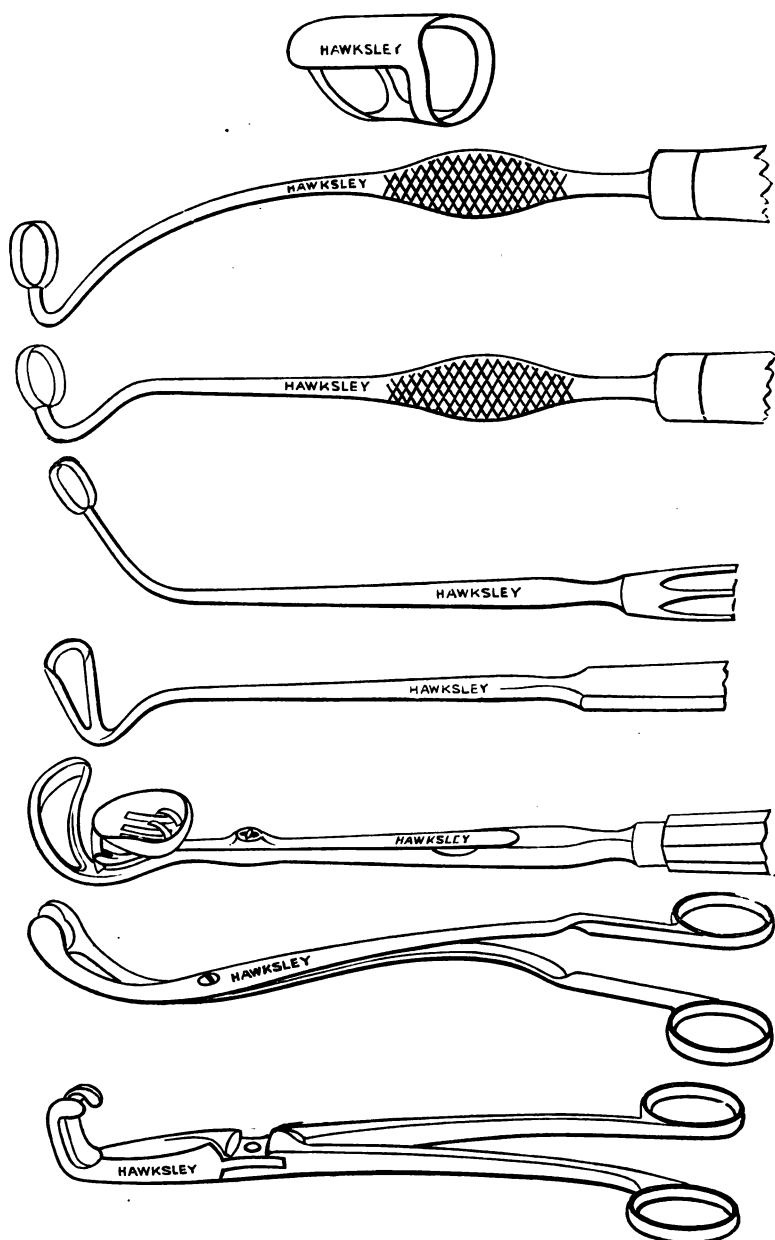


Fig. 18.—STEEL NAIL, CURETTES, AND FORCEPS, FOR ADENOID OPERATIONS.

Performance of the Operation.

One of the first requisites in the performance of the operation for adenoids is a good gag. The size and strength must be proportioned to the age of the patient. The pattern known as Mason's or Ferguson's acts sufficiently well. The arms of the gag must be inserted closed between the front, not the back, molar teeth, and the anæsthetist, to whom this important duty is en-



Fig. 19.—A MASS OF ADENOID GROWTH ATTACKED BY GOTTSTEIN'S KNIFE.

trusted, must see that the instrument is held firmly in position. The forefinger, guarded at its root by lint or an india-rubber stall, examines the naso-pharynx and estimates the extent and toughness of the growth. In a young child with soft and friable adenoids, the finger-nail used alone, or alternately with the steel nail, will suffice to eradicate them. The proceeding must

not be hurried. Should the growths be at all tough or resistant, the steel artificial nail may be employed, and the masses methodically scraped away with strong strokes. The steel nail may be removed from time to time, and any masses which remain again attacked. The nail must always have a piece of stout silk attached to it, lest it fall off and enter the larynx. Curettes of various sizes and curvatures are exceedingly useful. Gottstein's pattern is very essential for a mass situated posteriorly. The instrument is passed behind the soft palate, and the mass of growth being engaged in it, the instrument is firmly drawn downwards and backwards. In the same way curettes, cutting laterally, may help to clear the masses in the fossa of Rosenmüller on either side. Some operators introduce a ring-knife from in front and guide its action by the finger in the naso-pharynx. I have seldom employed this method.

A word of caution must be given concerning the employment of curettes. Remember that the naso-pharynx of a child is surrounded by delicate structures, and that you must not scoop away as though you were clearing out a cavity in the bone. I have actually seen portions of mucous membrane stripped from the pharynx, and the soft palate split in these operations. I need only mention such accidents as possible, to warn you against force or roughness. In young adults, even curettes may not be sufficient to clear away these growths when they are tough and fibrous. It is in these cases that forceps of different patterns are used. The diversity of shapes and forms is almost endless, and some of these instruments are so massive and powerful that they are wonderful to behold.

I am quite against tearing away tough adenoids. The forceps I employ have cutting edges, and I aim rather at cutting or nibbling away the growths than forcibly tearing them out. I guide the forceps by the left forefinger in the naso-pharynx. There seems to me little use in pulling away strips of mucous

membrane with the growths, unless it be for "show" in the basin afterwards. To use the forceps properly, the bits of growth should correspond in size to the ring of the forceps, and be definitely cut off. Violent tearing with forceps has led to all sorts of disasters: the Eustachian tube has been damaged, and large blood vessels have been injured, leading to alarming and even fatal hæmorrhage. Large abnormal vessels are sometimes found in the walls of the pharynx, and the internal carotid itself, before entering the temporal bone, may give curious bends and twists which may bring it into close proximity with the pharyngeal walls. I mention this not to engender undue nervousness, but only to inculcate caution and avoidance of violence. The hæmorrhage from bad cases of adenoids may be very profuse, especially in vascular and plethoric individuals. You must expect it, and not be surprised or alarmed. It ceases spontaneously. All instruments used must be boiled and placed in carbolic solution, and you cannot be too careful that your forefinger has not been immersed in septic fluids just before the operations.¹

It may not be generally known that it is easy to dislocate the jaw of a young person with a powerful Ferguson's gag, and, if this be not recognised at the time, a very awkward and serious after-complication may arise. I have experienced this accident on two occasions. It was recognised, and the bone promptly replaced before sensibility returned.

Treatment of Cases where other Local Conditions are associated with Adenoids.

I have told you that before operating for adenoids you must be very careful to estimate any other conditions which may be

¹After having operated upon gangrenous appendicitis, for instance, I have postponed an operation for adenoids, finding it impossible to rid my finger of the unpleasant and characteristic odour which may hang about the skin of the hands for some hours after this proceeding.

present and need treatment. A very common and, indeed, ordinary association of adenoids is enlargement of the tonsils. Bad cases of the one seldom exist without the other. Recollect this carefully, and remember that when you have removed a child's tonsils you have not necessarily cured it of deafness, mouth-breathing, and other consequences of nasal obstruction. As a rule, the treatment of enlarged tonsils and adenoids presents no great difficulties, if you can command the aid of a good anæsthetist and if you proceed deliberately. Generally, the adenoids and tonsils may be removed at the same time. In young and delicate children with large and vascular tonsils, I have departed from this rule, and have done the two operations at intervals of some months. I think this is wiser and safer in these patients, as the loss of blood may be excessive from the two operations, and may act injuriously on young children such as we meet with in large cities—weakly and anæmic, with poorly-developed limbs and pasty complexion, or the offsprings of marriages of consanguinity or of badly-nourished parents.

A delicate, flaxen-haired little girl, aged five, was kindly placed under my care by Dr. Penrose. She had large spongy tonsils nearly filling the throat, and the nose was also much obstructed by abundant adenoids. The tonsils were first removed, and the hæmorrhage was very profuse. The adenoids were not touched. About three years after the adenoid growths were removed with the steel nail. The bleeding was again rather free. The child did perfectly well, but one may suppose that had both operations been performed at the same time, the resulting bleeding would have been a severe or perhaps dangerous trial to a form so delicate and frail. After the second operation the child was much benefited, and her present condition is that of a strong, healthy little girl, with free nasal respiration.

Suppose, however, as is usual, you have determined upon removing the tonsils and adenoids at one time, which operation are you to do first? Here, again, there are differences of opinion. My own rule is to remove the tonsils first, and the adenoids after. If the reverse procedure be adopted, the throat gets full of blood and mucus, which impede that free view of

the tonsils so essential to successful and speedy removal. A very excellent plan of doing these cases, which are not always as easy as they appear, is to have the anæsthetised patient well propped up with pillows, and the mouth widely opened by a good gag before a strong light. Two guillotines of exactly the proper size must be at hand, and the surgeon removes the tonsils, especially attempting to engage the second tonsil before the bleeding from the first obscures it. The pillows are now removed and the patient turned upon his side; the bleeding, often profuse, no longer embarrasses the anæsthetist, and the patient is in the best possible position for the operation upon the adenoids to proceed. Chloroform can be administered by the tube of the Junker's apparatus during the last stages of the operation. The amount of blood lost in a case of this kind, when the tonsils are large and vascular, the adenoids abundant, and the patient a plethoric schoolboy or young adult, may be very considerable, and looks alarming even to those accustomed to surgical hæmorrhage.

The gag should be kept in the mouth, and all sponging of the throat should, if possible, be avoided. This is one of the many great advantages of the side position. The patient is placed in bed upon his side, with a towel under his head and a small basin in position to receive blood or vomit, and the operation is at an end.

The same methods may be used in removing polypi or spurs, or portions of the turbinated bones complicated by adenoids. Do that part of the operation first, where vision is of importance. For instance, if you remove adenoids first, and then try to saw off a nasal spur, you will find your view of the parts much obscured by oozing blood, and the operation will be comparatively embarrassing and difficult. It is frequently needful to apply the galvano cautery for hypertrophic rhinitis, and to operate at the same time for adenoids. Under these circumstances, I always do the cauterisation first, so that my view

is not obscured by bleeding. More need not be said concerning these cases, if the rule of operating last upon the adenoids be generally adopted. I may add that this method is the result of my own experience, and I am aware that it is not universally adopted.

Complications and Dangers of Adenoid Operations.

The operation for adenoids is one of the safest in surgery, if conducted with all proper precautions. This you may tell the parents of a child with confidence and truth. I have spoken to you regarding the caution to be observed in the anæsthesia. With an experienced anæsthetist, and by adopting the postures I have mentioned, all question of risk on this score may be done away with. Severe as the hæmorrhage may be in these cases, in a now lengthy experience, I have never been anxious regarding it. I am always cautious in the employment of anything like force or violence in naso-pharyngeal operations. The thought of large vessels abnormally placed must be present with us. It is no use concealing these matters. At least one sudden and shocking fatality has occurred from hæmorrhage in London, and on the Continent, too, this serious complication is not unknown.

Abnormal vessels about the pharynx are of great importance from an operative point of view. In the *Glasgow Medical Journal*, 1898, four cases are related well worthy of attention. In one case, that of a young woman of twenty-two, large pulsating vessels ran behind both faucial pillars on the sides of the naso-pharynx. In a man of seventy-two, a swelling on the back of the pharynx was a large pulsating vessel. The author refers to a specimen in the Glasgow Museum of a tortuous carotid, the artery approaching a half-inch down to the median line, then normal. It is evident that pulsating vessels behind the pillars of the fauces are either enlarged ascending pharyngeal vessels, or else an abnormal internal carotid itself. They can be detected by narrowly observing the parts under a good light. Should such vessels exist they may readily be wounded by "free" operating in the naso-pharynx.

Dr. Ball relates, with candour, a case of this nature. In a girl, aged fourteen, enlarged tonsils and adenoids were removed with the guillotine and Gottstein's knife. The bleeding was ordinary in amount. At 7 p.m. large

quantities of blood were both spit and vomited. A large clot extended from the naso-pharynx down the pharynx. This being removed, blood trickled down steadily from above. Hot water syringing failed, and the pharynx had ultimately to be plugged with a soft sponge, which controlled the bleeding. (*West London Medical Journal*, October, 1898, p. 305.)

In America some surgeons have reported mishaps of this nature. Knight relates a fatality after operation for adenoids in a boy aged four. He appears to have been a "bleeder." Newcomb related a case in the *American Journal of the Medical Sciences*, 1893. Here bleeding came on four hours after operation in a boy aged four. The same speaker related a series of cases in the practice of others. (*Laryngoscope*, April 1, 1898.)

I personally know of three cases in private practice in London which have never been reported. One of them occurred in the hands of a very expert surgeon.

In April, 1894, I operated upon two little boys, brothers, about eight or ten years of age. They both had moderately-enlarged tonsils and adenoids, and there was nothing peculiar about their cases. Dr. Hewitt administered gas and ether, and the tonsils were removed with the guillotine, the adenoids with steel nail and curette. The hæmorrhage was moderate, and the effects of the anæsthetic soon passed away. There was indeed nothing in the operations which would seem to give a moment's anxiety, or indicate anything but a successful issue. The elder boy, however, vomited constantly after the operation, became collapsed and restless, and his pulse exceedingly quick. The temperature was low, and the condition of the patient much resembled that which we see in severe surgical shock. He constantly retched, bringing up a little brownish mucus; and all food or drink, even dry champagne, was at once rejected. On the second day the patient was seen by Sir Dyce Duckworth, who suggested a small injection of morphia. Rectal feeding was also employed, but it seemed to benefit the case but little. The boy got weaker and weaker, his pulse was hardly to be counted at the wrist, the breathing was shallow, and he died in the early morning of the fourth day after operation. Shortly before death the temperature rose to 102°. No examination of the body was made. The other boy made a quick and easy recovery. He was playing with his toys while his brother was really dying. This most distressing and calamitous case, which cost me the deepest regret, can hardly be explained, unless in the light of nerve shock. The character of the vomiting was not that of post-anæsthetic sickness. Its perhaps unique character hardly needs enlarging upon. It affords an illustration of a truth we must lay to heart, that all operations have slight attendant risks; but the same may be said of travelling by rail or by sea, hunting, shooting, and of many games and amusements which we freely indulge in to gratify our pleasures or convenience.

It would be manifestly risky to operate upon a case if the hæmorrhagic diathesis were present. This condition is not

always easy to detect, and, oddly enough, parents will sometimes wilfully conceal it. Also exposure to scarlet fever or diphtheria may cause a serious infection in a recently operated-upon case. In general practice you must especially remember this, and if you have epidemic diseases of this kind prevalent in your neighbourhood, or if you are attending scarlet fever, you must not do or go near any sort of throat operation. For the past fifteen or more years I have been constantly operating upon numbers of these cases in private and hospital practice. I have had no mishap, except in the above instance, which may verily be termed a calamity of surgery, which cost me the deepest anxiety, and which even after the event I find it impossible to elucidate. I think it right to take this opportunity of making so extraordinary a case known to the profession.

After-treatment of Cases of Adenoids.

Many operators of experience sum up the after-treatment of adenoid operations very simply. They do nothing. I do not believe that this is right. The deafness which often necessitates the operation is seldom thoroughly relieved in this way, and the faulty habit of mouth-breathing may remain. This is especially the case in young adults who have for many years practised mouth-breathing, and are unable to break themselves of the habit.

My own practice is as follows:—When the patient recovers from the anæsthetic, he is instructed to occasionally blow his nose into pieces of clean lint, so as to clear away clots, and on the second and third days the nares are gently sprayed through with warm boric-acid solution, or two teaspoonfuls of "Listerine" to a wine-glass of warm water. If syringing be employed, the instrument should contain about five ounces of fluid, and a piece of tubing much smaller than the nares should be passed along the floor of the nose as far back as possible.

Should the tubing tightly fit the nose, fluid may be forced into the middle ear, which is disastrous. I have never had a case of suppuration of the middle ear follow an operation for adenoids, though I have read of this complication, and I believe it has been occasioned by pumping fluids into the nose under high pressure, or allowing the naso-pharynx to become septic. The syphon douche is an instrument I seldom allow after adenoid operations; a good "spray" is quite sufficient. After all operations about the nose and pharynx a useful precaution is to let the patient inhale the vapour of creosote, iodine, or carbolic acid through any of the forms of apparatus in vogue. The patient should be kept four or five days in a room of equable temperature. When the parts have healed, the ears should be gently inflated by a Politzer bag, three times a week, for some months. I regard this as a very essential part of the treatment. Lastly comes the matter of mouth-breathing. Unless the parents or guardians of the child help you to overcome this faulty condition, the operation is very apt to prove unsatisfactory. I have seen this over and over again, and I look upon neglect of this part of the proceeding as a defect in practice. The patient, every day for thirty minutes, should walk up and down the room, filling the chest with deep inspirations, the lips being tightly approximated. Most essential, too, are methodical lessons in elocution, especial attention being given to such words as produce lip approximation.¹ This may sound very trivial, but it is not so. It makes all the difference between a good result and a bad one and, in girls especially, cure of mouth-breathing is of the utmost importance. Finally, the aid

¹ It will be remembered in Dickens' "Little Dorritt" that Mrs. General, the chaperone of Mr. Dorritt's daughters, required them to say daily, "Papa, potatoes, poultry, prunes, and prism." This is a most useful lesson for children who have suffered from adenoids or other forms of nasal obstruction, and who cannot be made to keep their mouths shut after operation.

of the dentist is often requisite to remedy the projection and unsightly appearance of the front teeth.

Treatment of Cicatricial Contraction of Nares.

This most troublesome condition is found in its worst form in bad cases of lupus vulgaris, especially when burning or extensive scraping has been carried on about the orifices of the nares. They may be actually contracted into mere tiny pin-hole apertures. In these distressing cases secretion accumulates in the nose, with sometimes foul granulation tissue, and the lupoid process progresses backwards until the soft palate itself is implicated. The surgeon cannot be too careful as to advising or performing plastic operations in these cases. Two things must be assured. First, that the morbid process has ceased; secondly, that the skin used to fashion fresh flaps is sound and free from disease. In few cases can this be assured, and I have known positive harm done by injudicious operating. My own practice is usually to keep the orifices dilated by the constant wearing of small celluloid tubes. This is a nuisance to the patient, but is the only way of obviating contraction. The dilatation must be kept up for an indefinite time, but it may be possible, as life advances, to do some operation which may permanently enlarge the apertures. As regards the scope and nature of the operation, these can only be determined by the ingenuity of the surgeon and the needs of each case.

LECTURE III

TREATMENT OF NASAL POLYPI

Difficulty of Treatment—Dubious Pathology—Common Association with Necrosis—Illustrative Case—Classification of Varieties of Polypi—Treatment by the Snare—Use of Cocaine and Suprarenal Extract—After-treatment by Caustics—Treatment of Inveterate Cases—Preliminary Removal of Inferior Turbinal—Operations under Anæsthetics—Dangers of Operations for Ethmoidal Necrosis—Polypi of an Inveterate Nature, where the Patients refuse Operations—Palliative Snare Operations—Polypi in the Naso-Pharynx—Myxo-fibroma—Importance of Diagnosis—Methods of Removal—The Snare Operation—Use of Forceps—Illustrative Cases—Naso-Pharyngeal Sarcoma and Carcinoma—Conditions which negative Operations.

LONG experience has only made me the more painfully aware of the great difficulty of permanently eradicating the tendency to growth of the ordinary mucous polypi of the nose. I may preface my remarks by saying that I believe the text-book description of these growths, as myxomatous tumours, is not quite correct. Their pathology is very remarkable and, perhaps, not fully understood. In their earliest beginnings, when no larger than a swan-shot, they closely resemble œdematous granulations. On several occasions, after opening old suppurating frontal or antral cavities, I have seen just the same condition of the lining membrane; and more, I have seen actual polypi in the cavities, so that the growths presented themselves of every size, from a polypus the size of a pea, to an œdematous granulation as large as a No. 5 shot. The great serosity and laxity of the nasal mucous membrane favour the growth of these tumours. As they increase in size, they become

more and more oedematous, and moulded by the configuration of the cavities in which they grow. Some are rounded, others flattened and irregularly lobed. Thus they become pedunculated and polypoid in form, and the term "polypus" is applied to them. The pedicles are usually attached to the outer wall of the nose, under the shelf of the superior or middle turbinal. I do not regard these formations as true tumour growths, in the sense of carcinoma or sarcoma. The importance of the above observation lies in this: nasal polypi are generally due to some cause of irritation in the mucous membrane or bones of the nasal cavities. They are closely allied pathologically to granulations, only that the latter are modified by peculiar local conditions. It may be, when polypi affect the sinuses, that the suppuration is primarily due to some definite organism; but this is not positively known. But when polypi, especially multiple polypi, grow in the nasal chambers, and originate from the ethmoidal region, necrosis of bone will almost invariably be found. Without giving the necrotic affection any special name, I am as certain of its occurrence as of anything in surgery. Among the many bad cases of polypi that I have seen and treated in hospitals and private practice, I have never failed to detect necrosis with a probe or, more luckily, to be able to extract bare and white portions of the turbinals or ethmoid. In these latter cases, when the source of irritation can be removed, permanent cure can be hoped for. Moreover, I have found necrosis in cases where no previous treatment had been adopted. This negatives the suggestion, often made, that the necrosis does not cause the polypi, but is the result of efforts at their removal. Furthermore, in a large proportion of these cases there is suppuration within the accessory sinuses, and the antrum is generally at fault. A case which made a marked impression on my mind, as illustrating the dependency of multiple polypi upon necrosis, was as follows:—

A Cambridge undergraduate, aged twenty-two, saw me on October 11, 1897, through the kindness of Dr. MacAlister. He had suffered from asthma all

his life, and for three or four years had noticed his nose becoming gradually blocked, with great discomfort and profuse mucous discharge. Sometimes the discharge was distinctly purulent. On one occasion, a medical man had removed some growths with forceps, but they soon sprouted again. He was pale and anæmic, a mouth-breather, with thick muffled nasal intonation. On examination, the nasal chambers were stuffed with gelatinous polypi, which also could be felt posteriorily, hanging into the naso-pharynx. The nose was widely expanded, the dilatation of the nasal chambers being quite apparent at a glance. I commenced treatment by removing several large growths with a snare, but could see that the case would prove a very tedious one.

Accordingly, I advised, as a preliminary to further prolonged supervision and treatment, that the turbinals and all the possible growths should be removed under anæsthetics. I warned the patient that his case was a serious one, and not devoid of risk. He expressed himself as ready to undergo any operation, however dangerous, that might relieve him from his present misery. On December 6, he was anæsthetised with chloroform by Dr. Hewitt, and placed in the lateral position. I removed the inferior turbinals with a ring-knife, bringing away a quantity of growths. Next, with a light forceps and the finger in the naso-pharynx, I removed a quantity of large gelatinous growths. I could not count them as they were broken up, but in the aggregate they would have filled an ordinary sherry-glass. I now felt a piece of bare rough bone, and, not without some fear, I seized and removed it. It appeared to be part of the ethmoid, and was obviously necrosed. I made an opening into the antrum also, from the nose, and evacuated a quantity of pus. The hæmorrhage was very profuse and, at the conclusion of the operation, I tamponaded the nasal chambers with iodoform gauze. He had severe headache and some fever after the operation. The gauze was removed in twelve hours, and the nasal chambers douched every three hours with dilute antiseptic lotions. Complete healing was allowed to take place. In about a month I inspected the nose, and with a snare removed every trace and shred of mucous membrane that looked "polypoid," or was hanging in shreds. Under cocaine the galvano cautery was applied to any swollen areas of mucous membrane. For about twelve months this patient came for periodical inspection. Chromic acid, fused into a bead, was repeatedly applied to cedematous tissue towards the roof of the nose, and the cautery to swollen areas.

Improvement steadily progressed, and the ultimate result of the case was excellent. The voice and general health were good, and the asthma much improved. At the end of 1898 no trace of growth could be seen in the nose. With a long probe an area of rough bone could be felt towards the body of the sphenoid, and douching, night and morning, was ordered to be continued.

Now the practical lesson you are to learn from all this is obvious. The mere pulling away or removal of growths from

the nasal cavities is but a small part of the treatment. No diseases of the nose are more apt to be complicated with other local maladies than polypi. Thus you may have to remove necrosis, or, especially, trephine and evacuate antral suppuration, or open and clear the frontal sinuses. Indeed, cases of inveterate nasal polypi are most tedious and difficult. They tax the patience of surgeon and patient to a high degree, and unless you are aware of this, you will make disastrous failures in these cases in practice, especially in a prognostic sense. Twenty years ago the manner of treating nasal polypi was much as follows. Anæsthetics were considered dangerous or, at least, not advisable. The unhappy patient was seated in a chair with a towel pinned round his neck. The surgeon, armed with powerful forceps, would pull out all he could reach. This usually included portions of the turbinals, which broke away with a crushing sound. The hæmorrhage was profuse, the agony unbearable, and the whole proceeding had, to my mind, a disagreeable appearance of brutality. It is not surprising that the unhappy victim of such prehistoric surgery would endure any discomfort from the malady, rather than have frequent recourse to treatment so painful and distressing. In private practice, if you treat patients in this way, you will never see them again; and rely upon it, they will not be much disposed to recommend you to their suffering friends.

The necrosis, in cases of multiple polypi, is not limited to the ethmoid. Indeed, I have frequently found rough and bare bone far back towards the body of the sphenoid. I expect the necrosis in such cases is about the sphenoidal cells, but this is a region so far back and so difficult of access, besides being so near the base of the brain, that, excepting very cautious curettage, I have never used instruments in this direction. The diagnosis of necrosis in the portions of bone I have removed, in these cases, has been made with the naked eye. The pieces of thin paper-like bone are white, bare, and dead. I have submitted portions to micro-

scopists, but I could at once see that this merely complicated the matter, as there were doubts as to whether the bone was dead or living, when submitted to minute examination. The evidence of necrosis is as clear as when a surgeon extracts a sequestrum from the femur or removes a portion of the external table of the skull, and this is, to my mind, enough for practical purposes.

I have pointed out to you the importance of an accurate diagnosis in these cases, and especially how you must remember that one polypus often conceals and obscures the view of others. An examination under cocaine and with curved probes is highly desirable to estimate the number, configuration, and attachments. These cases differ so widely in severity and nature, that I do not believe any one plan of operation will suit them all.

I will consider the treatment of polypi under the following headings:—

1. Cases where no previous operations have been done, and the growths are few or single.
2. Cases of inveterate polypi where the growths are multiple, the nose expanded, and perhaps a history of many operations.
3. Cases where patients, from constitutional causes or great timidity, are averse to any operative measures involving hæmorrhage or anæsthesia.
4. Polypi in the naso-pharyngeal region.

In the first group of cases the treatment I advise is as follows: The nose having been treated with five per cent. solution of cocaine, the growths are removed by a snare and reflected light.

Several snares of different sizes must be at hand, and the loops of wire must be proportional to the size of the growths. The wire must be of steel, and not too thick. When the



Fig. 20.—A CONVENIENT FORM OF
POLYPUS SNARE.

oozing of blood obscures the view, cold syringing may be employed, and the nose "tamponaded" for a few minutes with pledgets of wool. The use of suprarenal extract in these cases often results in marked diminution of hæmorrhage. When all that is possible has been done, the parts should be inspected every other day, and, under cocaine, any fragments of growths or small polypi which have escaped observation should be persistently removed, until the nose is quite clear. The next step is the application of the galvano cautery to all swollen patches of mucous membrane. The nose should be syringed daily for some weeks, and then the patient should pay monthly visits, and, under cocaine, chromic acid

should be applied to the parts from which the polypi originated, as well as to any suspicious spots. This is best done by putting the crystals on the end of a probe and fusing them into a small bead in the flame of a spirit-lamp. The application should be made on the stumps of the polypi, and not at haphazard. A careful examination of the nose should be made for necrosis, and if this

be found, some return of the disease may, unfortunately, be expected, unless the offending and obstructing portion of bone can be removed. It is extraordinary, in apparently simple cases, what a number of growths may have to be treated. As the swelling and hyperæmia subside, small polypi come into view which before were quite unsuspected. I never pronounce a case of polypus of the nose "cured," unless I have watched it for at least two years. If, at the end of that time, there be no trace of return, if the mucous membrane over the upper parts of the turbinals be dry and cicatricial in appearance, all will usually go well. A certain number of cases of polypi are definitely cured by the snare, followed by the persevering application of chromic acid. In others, obstinate and inveterate recurrence takes place. The tumours appear with mushroom-like rapidity. As soon as a thorough clearance takes place fresh growths return. These cases introduce us to the second class.

Here the nose is often expanded, and the polypi may appear at either nostril externally (Plate I., fig. 3). The patient is in great misery, and is often asthmatic or bronchitic, nasal breathing being quite impeded. In these cases, necrosis is generally present, empyema of the antrum may co-exist, and the treatment presents no little difficulty. In nervous patients who much fear anæsthetics or anything like a formal operation, multiple polypi can be dealt with by the continuous and persevering use of the snare. There is one difficulty associated with the use of this instrument—in many of these cases polypi of various sizes and shapes grow into the naso-pharynx, and the loop has to be guided round them by the finger in this region. If these posterior growths are not detected and removed, the results of the operation are very incomplete. In nervous sensitive people, even with the aid of cocaine, manipulations in the naso-pharynx are not very well borne. The patient often embarrasses the operator by movements or exclamations of pain. For these and similar reasons, I generally like to commence the treatment

of a bad case of polypi by an operation under anæsthetics. As a preliminary, I advise illumination by Heyring's lamp. Antral suppuration can often be detected by this means, and, if it exists, must be dealt with at the same time by a free anterior opening into the cavity, and not by an inefficient hole made through the tooth socket.¹ The operation is conducted as follows. The patient, placed in the side posture with a gag in the mouth, is slowly and carefully anæsthetised by a skilled administrator. Chloroform, at all events in the later stages of the operation, is a necessity. A number of snares are ready at hand, and all available growths are pulled away under reflected light. Next, the guarded finger is passed into the naso-pharynx, and with a fine, strong serrated forceps all other available growths are removed. It is likely enough that now the operator will for the first time feel some large slippery polypi in the naso-pharynx, which may be firmly grasped with the forceps and pulled off. Necrosis will probably be detected. Any portions of bone which come away easily should boldly be extracted. If fixed, the operator, bearing in mind the perilous region in which he is working, uses no undue force. The curette may also be employed with extreme care and gentleness. As a termination, I generally remove the inferior turbinal with a ring-knife. Much polypoid tissue originates from it, and its removal facilitates further treatment in a remarkable way. These operations are always severe, and associated with a good deal of bleeding, but they are less dangerous than might be imagined, and though I have done many, I have never lost a case from cerebral infective troubles. I have, however, known meningitis

¹ The difficult subject of antral suppuration cannot be here treated. I would only say that trans-illumination is not a certain guide. In nasal discharges of a purulent nature, if one side be translucent, and the other, in which the discharge exits, dark, the diagnosis is almost certain. I have, however, known pus to be found in the antrum, when feeble illumination could be actually carried out.

ensue in the practice of the best surgeons. It is an almost unavoidable risk in operations of this nature, though its frequency has been much exaggerated.

I always tamponade the nose with a long and fine strip of iodoform gauze, which is pressed up high into the ethmoidal region. A piece of soft silk is tied to the extremity which lies posteriorly, and this being tied over the gauze anteriorly prevents it escaping into the naso-pharynx. This plug is removed in twenty-four hours, and the nose douched night and morning with a mild antiseptic. I often employ a spray of a 10-volume solution of hydrogen peroxide. A mask, sprinkled with creosote and carbolic acid, is worn over the nose and mouth.

At about the end of fourteen days the nose should be examined, and portions of ragged tissue or polypi which have escaped gently removed, under cocaine, with the snare. Chromic acid should now carefully be applied to the upper parts of the nose in all situations where polypi have been removed. Even under cocaine, the burning induced by this application is often severe, and, if intolerable to the patient, warm syringing should be employed, as it dilutes the acid and stops the pain. A good deal of sloughing is induced by this powerful agent. At least three weeks or a month should be allowed to elapse before it is again applied. In the interim the nose should be daily syringed. The number of times the acid is to be applied will depend upon circumstances. As far as possible, the surgeon should aim at destroying all the areas whence the polypi appear to spring. After-supervision is essential, and, twice or thrice in the year, the patient should be carefully examined. Any fresh growth should be at once removed with the snare and the acid again applied. A persistent purulent discharge generally means antral implication or suppuration in the ethmoidal cells, and this must be attacked and treated. Unless all this care and patience be exercised, anything like a cure is out of the question. Few surgeons have

the patience or will take the pains to thus deal with cases of multiple polypi; hence the idea is prevalent that the disease is incurable, which, in many cases at all events, is by no means true. In conclusion I may say that free removal of the turbinals—the anterior part of the middle and whole of the inferior—can alone give proper access to the nasal cavities for the after-treatment of desperate cases of polypi, and I strongly advise this step as essential in the treatment.

I must add a word regarding the removal of necrosis, so often associated with these cases. I make it a rule never to violently wrench or scrape away portions of necrosed bone high up in the nasal cavities. Any piece that moves and is loose I extract. I use the curette very cautiously, and aim at entering the anterior ethmoidal cells with it by working through the middle turbinal. It is far better to leave nasal necrosis alone than to cause a disaster. With care in after-treatment by sprays, douches, and the like, such patients may keep themselves fairly comfortable. It is impossible to tell how many deaths have occurred from operations on nasal necrosis conducted, in a "haphazard" manner, towards the roof of the nose. Such cases are carefully concealed, and the profession consequently have no idea of their frequency. You may take it from me that they do occur. Once a year, at least, I hear of some of these catastrophes in the conversation of medical circles. The operators are not to be blamed, but the operations are inherently dangerous, and this ought to be fully understood by patients and their friends. Curetting operations in the ethmoidal region must only be undertaken after full consideration by all parties concerned.

The third class of cases of inveterate and recurrent polypi form a very large one in practice. There are many individuals, especially in private practice, who will firmly refuse anything like a formal operation. Again, some of the sufferers from inveterate polypi are old and feeble, or the subjects of advanced pulmonary emphysema or cardiac disease. Such patients, indeed, do not

well bear operations, and none, except those of absolute necessity, should ever be performed upon them. Some of them will not, however, object to the snare if gently and dexterously used with cocaine. You may from time to time, perhaps annually, clear the nose of the larger growths, but you will not permanently cure them or attempt to do so. To others who will not even have the snare used, you may explain that treatment is difficult or impossible. I have managed several such cases by injecting the polypi with a saturated solution of sulphate of zinc. Probably many astringent substances would do equally well. The method is not a favourite one with me, and I do not recommend it, as it induces inflammation and sloughing. Recently I have used a solution of tannin in rectified spirit with good effect; but, considering that the use of the snare should be practically painless, I see no reason to adopt other and inferior measures, unless in very exceptional circumstances.

Finally, I may add that I think it quite needless, in cases of polypi, to perform operations involving incisions of the face. Such operations as slitting the side of the nose, or turning up the nose in front by the method of Roux, are seldom, if ever, needful. Should antral or frontal sinus suppuration be associated, and this is always possible, the case becomes far more severe and troublesome; and you must prepare the patient to undergo several anæsthetic administrations, for the whole of the operative treatment can hardly be done at one time.

Polypi in the Naso-Pharynx.

I must especially draw your attention to this part of the subject, for these cases are readily misunderstood or overlooked, and particularly so as the diagnosis of them is often far from easy. They are readily confounded with adenoids, and the mistake is a very awkward one both for treatment and prognosis. The majority of these growths have attenuated pedicles, some-

times flattened like a piece of tape, sometimes thin and round like the stalk of an apple or pear. They may be small and



Fig. 21.—A FIBRO-MYXOMATOUS POLYPUS OF THE NASO-PHARYNX.

lobulated, and thus easily escape detection. In the chapter on diagnosis, I have already laid stress upon their mobility to the finger as being one of their principal distinguishing features. In structure, these growths are more firm and fibrous than intra-nasal polypi, and they are exceedingly difficult to manipulate operatively, as they avoid the loop of a snare or the grasp of forceps in a very remarkable and sometimes exasperating way.



Fig. 22.—A SMALL LOBULATED POLYPUS IN THE POSTERIOR NARES.

When you have detected a naso-pharyngeal polypus, the first

point you have to determine is whether it is mobile, as well as to estimate the size of its pedicle, for upon this will largely depend the appropriate treatment you must adopt.

In connection with the remarks on diagnosis in Lecture I., you will see the vast importance of distinguishing between polypi and sarcomatous growths. Any interference with the latter may bring on a very serious hæmorrhage, while the surgical treatment of the malignant growths in the naso-pharynx is beset with many difficulties and dangers, and must be considered quite apart from the movable mucous polypus.

Having detected one or more polypi in the naso-pharynx, the first thing to determine is the method of removal. If the patient be courageous and tolerant, there can be no doubt that taking away the growth under cocaine is by far the more easy proceeding. Even with cocaine, however, manipulation of instruments, and the prolonged contact of fingers behind the naso-pharynx, are anything but agreeable, and, unless the patient be possessed of much fortitude and resolution, you will find removal, without anæsthetics, very difficult. Many of these growths occur in young persons, of either sex, at about the age of puberty. With nervous and sensitive patients, operations in the naso-pharynx are usually quite impossible without general anæsthesia. If the growth be of a large size, with a thick attachment, or if the fundus of the polypus be so low down that the tumour actually shows behind the palate, the snare *écraseur* is a useful instrument. Many surgeons use the galvanic *écraseur* for these cases. I have never seen troublesome bleeding follow the use of the cold wire slowly tightened, and I always employ it. One of the best ways of introducing the loop of wire is as follows:—The polypus is first grasped by hook *vulsellum* forceps introduced through the mouth, and the handles of which close **with a catch**. These are left hanging on. A curved forceps being introduced through the nares, the extremities of the wire are engaged in it **and, when the forceps are withdrawn, a loop of wire**

remains in the naso-pharynx, and the two free ends project from the nostril. The loop should surround the handle of the vulsellum, as being a direct guide to the subsequent engagement of the polypus in the snare.

The wires are now threaded anteriorly and fastened securely, and the snare *écraseur* is run down to the posterior nares. By the aid of the finger the loop is passed round the fundus and gradu-

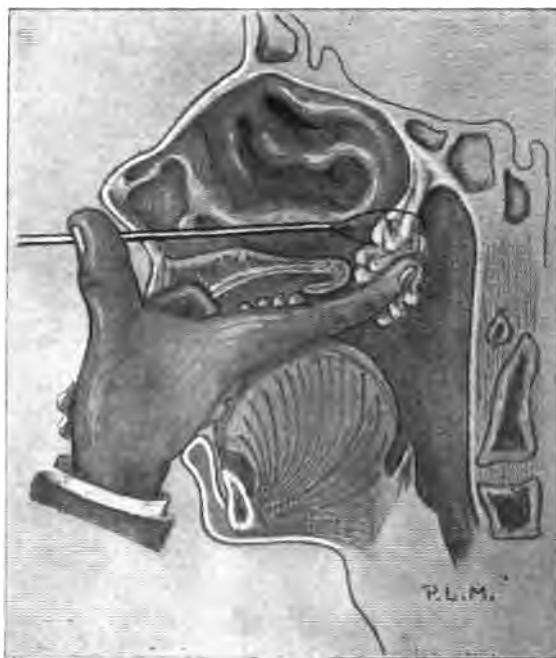


Fig. 23.—SNARING A POLYPUS IN THE NASO-PHARYNX.

ally tightened, as well as pushed upwards as far as possible, while moderate traction is made upon the growth below by the catch vulsellum. An assistant is absolutely necessary in this operation to tighten the *écraseur* while the operator places the loop in a good position. The screw is turned more slowly once the pedicle is engaged, and if it be thick and vascular, it is better to

take ample time in the severance. When the growth separates, it is removed through the mouth by the catch forceps, which prevent it falling upon or down the air-passages.

The operation thus briefly described is associated with many difficulties. First come the posture of the patient and the administration of the anæsthetic. The most convenient position is for the patient to recline in an easy-chair with the head thrown a little backwards. Probably the side position is the safest, as advised for adenoid operations. This position is not so easy for the operator, but is more simple for the anæsthetist. Unless the surgeon can secure the services of a highly skilled administrator, he had better leave these cases alone, and hence the sitting posture is the one I generally advise and employ. It can easily be understood that the combinations of a naso-pharyngeal growth in a stout, plethoric patient, with muscular jaws, who is also alcoholic and nervous, call for the highest skill and courage in the administration of anæsthetics, and that to undertake such a case with a nervous or inexperienced administrator is to risk a surgical struggle, and court failure in the operation, or worse. Plenty of pillows of different sizes should be at hand to support the patient's head in various degrees of flexion, and a strong, perfectly-fitting gag should be fixed in the mouth. On the whole, I prefer Ferguson's pattern. If the patient be lying on the side, a convenient form of gag is that invented by Dr. Hewitt, which acts in the vertical direction. For sponging the throat, large coarse sponges must be employed, and these may be held in the operator's hand, or grasped in a strong clamp forceps. Insecure sponge-holders must especially be condemned. On the whole, I prefer these cases to be placed under gas and ether, and the anæsthesia to be continued with chloroform blown into the mouth through a tube. The wires of the écraseur may break, so several spare wires should be at hand. When the growth is removed, make a careful examination for others. Nothing is more annoying than to detect some smaller

growths subsequently, which could easily have been removed at the time had they been found.

Removal with the forceps is easier than the above method, and is adaptable to many of these cases, especially if the growths be small and slippery, or long and worm-like. In such cases the manipulation of the wire loop may prove very unsatisfactory. The precautions as to anæsthetics, position, etc., apply here. A

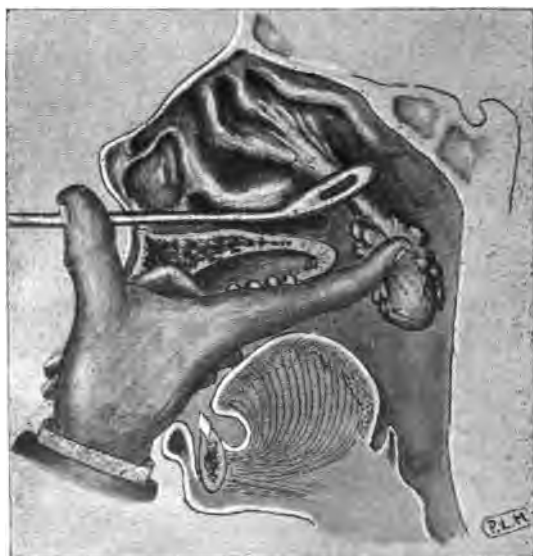


Fig. 24.—REMOVAL OF A NASO-PHARYNGEAL GROWTH WITH FORCEPS.

strong serrated forceps is passed through the nares anteriorly, and, guided by the left guarded forefinger, the instrument grasps the polypus near its root and twists it off. At this stage the growth may fall into the air-passages, or be swallowed, and it is a good precaution to secure it with a catch forceps or a ligature previous to removal.¹ A prolonged search should be made for

¹ The swallowing of a polypus is not harmful, but the friends or relations of the patient may be disappointed and alarmed at not seeing the growth. In 1898 I operated upon a young lady, aged sixteen, whose singing voice was undergoing deterioration. With the rhinoscope I detected a tumour in the

other growths. I pass a piece of sponge the size of a walnut upon a forceps, through both nares to my finger placed posteriorly. By this means I have often detected long slippery polypi which have lain along the floor of the nares, their thin stalks originating high up and posteriorly. The sponge pushes them out into the posterior nares, where they can be detected and removed. Once only have I seen troublesome bleeding follow removal of these growths. This was in the instance of a very broad-based polypus, and the hæmorrhage after its severance was, for a few minutes, rather profuse. It was arrested by a manœuvre I have found very useful in such cases. A soft Turkey sponge of appropriate size, after having been wrung out in spirits of turpentine, is rapidly passed behind the soft palate and grasped by a forceps introduced through the nares from in front. The sponge should be rather larger than the nares, so that it will not pass into them. Traction is now made upon the forceps, and by this means very firm pressure can be exercised directly upon the bleeding point. In the case mentioned below, this method was very successful in arresting a troublesome oozing.¹ Finally,

naso-pharynx the size of a pigeon's egg ; it was very movable and slippery. I operated with the patient reclining in an easy-chair. Dr. Hewitt administered chloroform. I had much difficulty in securing the growth, but ultimately twisted it off with forceps introduced anteriorly. I failed to withdraw it. The bleeding was very free, and, after the requisite sponging was concluded, I could not find the growth. I passed instruments through the nares from in front, and made a careful search, but all to no purpose. The growth was doubtless swallowed. The friends of the patient were much alarmed at this, and some symptoms of anæmia and ill-health which followed were persistently put down to the baneful internal influence of the vanished polypus. I mention this case, as showing the importance of securing these growths with a catch vulsellum forceps previous to twisting them off.

¹ A young lady, aged sixteen, was brought to me in February, 1898, by Dr. Morton, of Kilburn. She had symptoms of nasal obstruction and a peculiar voice, with that "flat," "dead" intonation found in patients with large polypoid growths. Two growths could plainly be felt behind the palate, and they seemed of large size. They were removed in the following manner. Dr. Hewitt administered gas and ether, and afterwards chloroform. I found one large growth situated towards the left, which swung about, indicating that

I may mention that, in my belief, the danger from hæmorrhage in these cases has been much exaggerated.

The following cases from the "Practitioner," Vol. LIII., p. 429, further illustrate the subject of polypi in the naso-pharynx

The first case was that of a single lady, aged thirty-six, a patient of Dr. Grange, of Southampton, who came under my care in June, 1893. For an indefinite time she had suffered from symptoms of nasal obstruction, with deafness and severe "buzzing" tinnitus. Two months before, a small polypus, the size of a grape, came away spontaneously from the right nostril. The patient spoke with the usual muffled intonation of nasal obstruction. Nothing was to be detected anteriorly, but on inspecting the throat the fundus of a large polypus could just be seen hanging below the palate. The throat having been sprayed with cocaine, and the finger passed behind the palate, it was ascertained that two large growths were present, that they were pedunculated, moved somewhat on manipulation, and did not bleed. The growths were easily visible with the rhinoscope; they were of a pinkish hue.

On June 29 I removed the growths under ether, by the steel nail used for adenoids. The tumours being drawn tense by a curved vulsellum, the nail, vigorously used, easily peeled them away from the back part of the roof of the nose. There was very free hæmorrhage, which was checked by pressing a sponge wrung out of spirits of turpentine into the naso-pharynx. The patient made a rapid recovery, and quite lost all her disagreeable symptoms. In consistence the tumours were dense, and in structure they were composed of connective tissue and myxomatous material. They were, in fact, a firm variety of the ordinary nasal polypus.

The second case occurred in a young man, aged twenty-nine. For nine months he had suffered from nasal obstruction and great difficulty of breathing. There was no deafness, and only slight epistaxis. His voice was altered in character, being very thick, dull, and muffled. His general health was excellent, but he gave the significant history that twelve years ago he had a small growth removed from the back of his nose by Mr. C. Heath. Anteriorly, under good light, a growth could be seen through the right nostril, and on passing the finger behind the soft palate, which was somewhat depressed, a smooth rounded tumour, the size of a Seville orange, was at

the pedicle was slender. Removal was performed with the forceps from in front. An immediate difficulty presented itself in the occlusion of the posterior nares on the left side. No way could be found for the forceps, which had to be pushed through and forcibly opened before the pedicle of the growth was seized. This was difficult, and only accomplished after several attempts. The growth was removed, as well as several smaller ones. The tumours were of the nature of "mucous polypi," but much firmer than is usually the case.

once felt. It moved very slightly, and obviously had firm attachments to the parts above, whence it grew by a stout pedicle. Some bleeding was caused by manipulation.

On June 16 I operated under chloroform. The patient was placed upon



Fig. 25.—NASAL POLYPI.

the side, with the head hanging a little over the edge of the table, and a strong gag was fixed in the mouth. With a soft Jacques catheter, I passed a loop of silk through the nostril, and by its means drew out through the nose a doubled steel wire carefully prepared and tested. There was then a

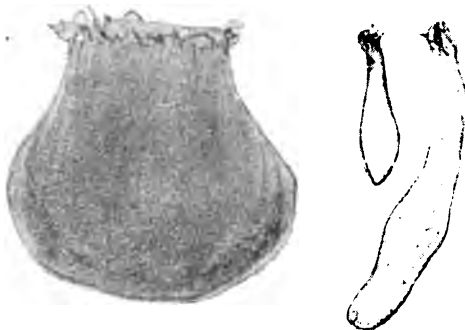


Fig. 26.—MYXO-FIBROMATOUS TUMOUR.

loop of steel wire in the pharynx, and its two ends projected through the right nostril. I then manipulated the loop of wire round the growth by a finger in the pharynx. This was not accomplished without some delay and much difficulty. At length, however, the wire "sprang" over the fundus of

the tumour to the somewhat constricted part above, and I drew it tight by traction through the nostril anteriorly.

A Jarvis snare écraseur was next adjusted to the wire and run down the nostril to the growth, and the process of severance proceeded with. The screw of the instrument was very slowly turned, and a full half-hour was taken in dividing the pedicle of the tumour, which was as thick as a man's thumb. The severed growth fell into the pharynx, and as some bleeding took place it could not easily be found, but was at last detected and removed with the finger. The tumour was of the size and shape depicted in Fig. 26, and was very firm and tough. Smart hæmorrhage took place on its removal, but this was never alarming, and ceased spontaneously. The excellent position of the patient allowed all the blood to flow into the dependent cheek, and never caused us a moment's uneasiness. My colleague, Dr. Rolleston, examined the growth, and reported as follows :—

“The tumour is covered by a somewhat columnar epithelium. Under the epithelium there was a fairly compact stratum of fibrous tissue, containing numerous well-formed blood-vessels. Many of the arteries showed endarteritis obliterans; this was probably the result of inflammation extending to them from the exterior. Some of the arteries were completely occluded. The central part of the tumour was composed of myxomatous tissue. There was nothing to suggest sarcoma. The tumour is a myxo-fibroma.”

The patient rapidly recovered from this operation, and was greatly relieved. On October 17 I removed an ordinary myxomatous polypus from the right nostril, and on October 18 I removed from the naso-pharynx a small fibrous growth about a quarter of an inch long, which grew and hung pendulous from the back of the naso-pharyngeal wall. This was cut away by raising the soft palate, previously well cocaineised, with a spatula, and burning off the little growth with the galvano cautery.

On November 1 I removed a fourth tumour from the right nostril; this was thin, and elongated like a large worm. Its attachments were remarkably firm, so that when enclosed by the snare it was drawn away with difficulty. The nasal passages were now quite cleared, the patient could breathe easily, and his voice had recovered its natural tone. The last growth was entirely composed of loose fibrous tissue.

Naso-pharyngeal Sarcoma.

Fortunately, these tumours are of rare occurrence as compared with the simple variety. The diagnosis having been made, the first step is to determine whether the case is suitable for operation or not. Here we meet with great difficulty, because one surgeon will undertake what another will refuse, and one surgeon will consider satisfactory what another regards as an incom-

plete operation for removal of malignant growth. It is in these cases especially, that consultation with men who possess the rare combination of sober judgment and operative skill is so important, and that preliminary examination under anæsthetics is of such striking utility in determining the connections and exact extent of the growth. Operations in such cases are always dangerous, but then the disease is terrible, and the end of the majority of these patients very distressing. Still, it is a remarkable fact that, in these cases especially, the rare phenomenon of what is termed spontaneous retrogression has been observed. Some of the growths have sloughed away, and others have gradually diminished. So that even with inoperable cases you must not fold your hands and say nothing can be done.¹ The disease is generally, but not invariably, fatal. Increasing experience has taught me to be very cautious about making a hopeless prognosis in tumours described as sarcoma. It is from this rash manner of speaking positively upon uncertainties that quacks and "cancer-curers" get their reputation and that our profession earns well-merited mistrust. For instance, I have known a mass of septic granulation tissue in the nares, associated with necrosis, pronounced to be "hopeless cancer" by well-known surgeons. I have known the patients turn in despair

¹ That a surgeon should not despair of treating even a formidable sarcomatous naso-pharyngeal growth is well exemplified by a remarkable case of Bosworth's. A gentleman, aged forty-two, developed a most malignant sarcoma of the naso-pharynx, which also invaded the soft palate and right tonsil. Numerous microscopical examinations proved its sarcomatous nature. Bosworth operated by removing portions of the growth piece-meal with a cold wire snare. A large necrotic mass was reached and taken away, after which the patient's general condition markedly improved. He was so weak and anæmic that occasional visits to the sea-side were resorted to during the treatment. The galvano cautery was also used, but it seemed rather to do harm than good, the growth increasing after its use. It was discontinued, and a return made to the cold wire snare again. The growth was literally removed in hundreds of small pieces. Ultimately, the patient was rewarded for his pluck and perseverance by temporary freedom from growth. (*New York Medical Record*, January 17, 1885.)

to "quack remedies" which I will not mention lest they get an unintentional advertisement. In due course the mass has shrunk and disappeared, and you may imagine the result upon the mind of the patient, and his immediate circle of friends and acquaintances.



Fig. 27.—SARCOMATOUS NASAL GROWTH, INFILTRATING THE RIGHT CHEEK, IN A MYXEDEMATOUS IDIOT.

Malignant growths in the naso-pharynx are principally of importance from a diagnostic point of view, and I recommend you most carefully to study the remarks made in the first Lecture. When once you have made up your mind that a growth

in this position is of a malignant nature, you had better not touch it, unless you have had more experience in the greater operations of surgery than falls to the lot of most men. My remarks on the treatment of malignant naso-pharyngeal growths will therefore be brief, and only introduced for the purpose of making the subject of nasal obstruction complete.

The leading features which negative operation are softness, vascularity, and rapid increase, especially when combined with infiltration of the surrounding soft parts towards the cheek, tonsillar, or lateral pharyngeal regions. If you can sweep your finger round the growth, and find that it has only osseous attachments, removal can generally be effected. Infiltration of the lateral parts of the pharynx, high up, is usually associated with severe neuralgia about the auditory canal and with a diffuse external swelling high up under the angle of the jaw, due to deep glandular implication. The finger, introduced behind the palate, finds the growth incorporated with the side of the pharynx, and inspection shows the tonsil on the same side also enlarged and implicated. I always leave such cases alone from the operative point of view. I have seen other surgeons attempt them, with the result that though the growth may be surgically removed, it is not pathologically so. After a severe and perilous operation, recurrence is speedy and certain. Some varieties of naso-pharyngeal sarcoma, especially the spindle-celled, approximate closely to fibroma. They are slower in growth than the soft varieties, but often attended with a miserable condition of anæmia and profuse hæmorrhages from the ulcerated fundus of the growth. In these cases removal should generally be attempted. The growth has only osseous attachments, and though the operations may be most formidable, the results in certain cases quite justify the risk.

In operating upon naso-pharyngeal sarcoma, especially bear in mind the rule that the operation must be as complete as possible. You may bring away large portions of these tumours

with hot wire snare or forceps, but rapid growth will soon again occur. The operations invented by different surgeons would alone require a long lecture to describe. I have done altogether five of these cases, and have always adopted the method of partial removal of the maxilla as a preliminary step. If the patient be very anæmic, I should advise a temporary ligature to be placed upon the common carotid first, choosing that side upon which the jaw is resected. Removal of the lower part of the maxilla gives the best access to the base of the skull.

The following illustrates the highly favourable results which sometimes follow operations in apparently very unfavourable cases :—

F. M., aged fifty-four, was admitted into St. George's Hospital in December, 1895. For two years he had noticed difficulty in breathing through the nose, as well as deafness and alteration of the tones of the voice. On examination, a large growth was felt behind the soft palate, the fundus of the tumour being just apparent. It was about the size and shape of a small pear, very livid in colour, soft and friable, readily bleeding at the touch. The attachments were very high up, and felt extensive. The growth did not move much on manipulation. The extent of the growth, the probable malignancy of its nature, and its vascularity, induced me to make a direct way to the tumour. This was done by resecting the lower half of the left upper maxilla, leaving the orbital plate and malar region intact. The tumour now came easily into sight and feeling, growing from the ethmoidal region, and appearing very malignant in aspect. The growth was rapidly detached with a blunt raspator. The hæmorrhage, very profuse, was finally checked by the pressure of a turpentine sponge directly on the bleeding surface. The Paquelin cautery, at a black heat, was also applied. The wound healed rapidly, and the patient left the hospital much relieved. Microscopically the growth was an alveolar sarcoma invading fibrous tissue. The man remained well for two years, when one day profuse hæmorrhage took place, and he was readmitted. The wound was now opened again in the old line of incision. A small ulcerating growth, the size of a pigeon's egg, occupied the position of the former tumour. This was again removed in the same manner. The bleeding was again very severe, so that, even with direct sponge pressure, the patient became very faint. He made a rapid recovery from this operation also. The structure of the growth was evidently alveolar sarcoma. The patient long remained well, and was the custodian of a tennis lawn at Balham. This case is a peculiarly instructive and important one. The growths were examined by Dr. Rolleston, a sufficient guarantee that their exact nature was accurately determined.

In partial resection of the jaw the soft parts of the palate should always be preserved by peeling them from the bones with a raspatory. The growth comes well under touch and sight, and may be removed by slowly burning through its base with a Paquelin cautery. This operation should always be done in the side position, the vertical gag being placed upon the side upon which the patient lies. The profuse hæmorrhage all flows into the dependent cheek, and it is seldom needful even to sponge the regions of the larynx. The orbital plate of the maxilla being left, and the face incision accurately united, the after-deformity is hardly recognisable. Should recurrence supervene, the advantage of this method is obvious. The skin incisions are repeated, the flaps turned up, the recurrent growth again removed, and the cautery applied to its site of origin.

The two following cases well illustrate this part of the subject; the notes of them were kindly taken for me by Dr. Michöd when house surgeon at the Waterloo Hospital for Women and Children :—

A married woman, aged forty, was admitted under my care on June 3, 1899. About four months before, the patient noticed that her nose was getting bigger, and that she had difficulty in breathing through the left nostril. She suffered from no pain; at times she had a yellowish discharge from the nose which, she said, was not offensive; occasionally she was troubled with tears from the left eye running over the cheek. Patient was a fairly healthy-looking woman; there was marked bulging of the left side of the nose, the skin over the left cartilage was slightly reddened and thickened. The thickening did not extend to the tissue over the anterior surface of the superior maxilla. A submaxillary lymphatic gland was enlarged on the left side, but this might have been caused by a carious molar tooth. On examination with the nasal speculum, there was an ulcerating fungating mass blocking up the left nasal cavity, which bled readily when touched, and could be detected posteriorly by an examining finger. On June 5, she was taken to the operating theatre and anæsthetised with A.C.E. mixture in the lateral position (see p. 66), and the usual incision was made for excision of the upper jaw. On deflecting the skin forwards off the nose, considerable difficulty was experienced owing to the close connection of the integument with the growth. The tumour was found to be growing out of

the antrum of Highmore; it extended upwards across the roof to the septum. The whole mass was scraped out as thoroughly as possible, and the walls of the cavity cauterised with Paquelin's cautery. The skin was sewn up with silk-worm gut, and the incision covered with collodion. There was very profuse hæmorrhage from the operation. She made a good recovery, and was discharged on the 21st, the wound having healed without suppuration. The microscopic examination showed that the growth was a small round-celled sarcoma. The prognosis was bad on account of the way in which the growth had seriously implicated the ethmoidal cells and sinuses.

A widow, aged fifty-one, was admitted under my care to the Royal Hospital for Children and Women, on June 5, 1899. Twelve months before the patient noticed an offensive odour which she thought was in her nose. For the last two or three months she observed that the right nostril was getting larger. About three months before there was considerable bleeding after manipulation, and she had been troubled with epistaxis several times since. Tears occasionally ran over the right cheek. Patient was an alcoholic-looking woman, with numerous stigmata about the cheeks, and acne eruption all over the face. The nose was pushed over slightly to the left, the right side of the face and right nostril were larger than the left. The growth, which had not implicated the skin, was apparently growing out of the antrum, and had affected the right nasal bone and the anterior surface of the superior maxilla. On illumination, a large ulcerating growth was seen blocking up the roof of the right nostril, completely preventing the entry of air on that side, and producing a foul yellow discharge. June 8, patient was anæsthetised with A.C.E. in the lateral position, the usual incision made and the whole of the superior maxilla removed, with the exception of the orbital plate, the walls of the cavity being cauterised with Paquelin's cautery. There was considerable bleeding during the operation, but it was easily controlled by packing with turpentine swabs, and there was no trouble with respiration owing to the position of the patient. The skin was sewn up, and dressed with collodion as before. Patient made a good recovery from the anæsthetic, but during the evening there was a good deal of oozing, which was stopped by means of plugging, wrung out in turpentine.

The recovery was retarded by an erysipelatous inflammation of the skin of the face. On the 24th, when the patient was discharged, the incision had entirely healed, but there was still a slight discharge from the cavity, which had been syringed out all along with liq. sodæ chlorinatæ 3 ss. ad aqua 1. The prognosis was again unfavourable.

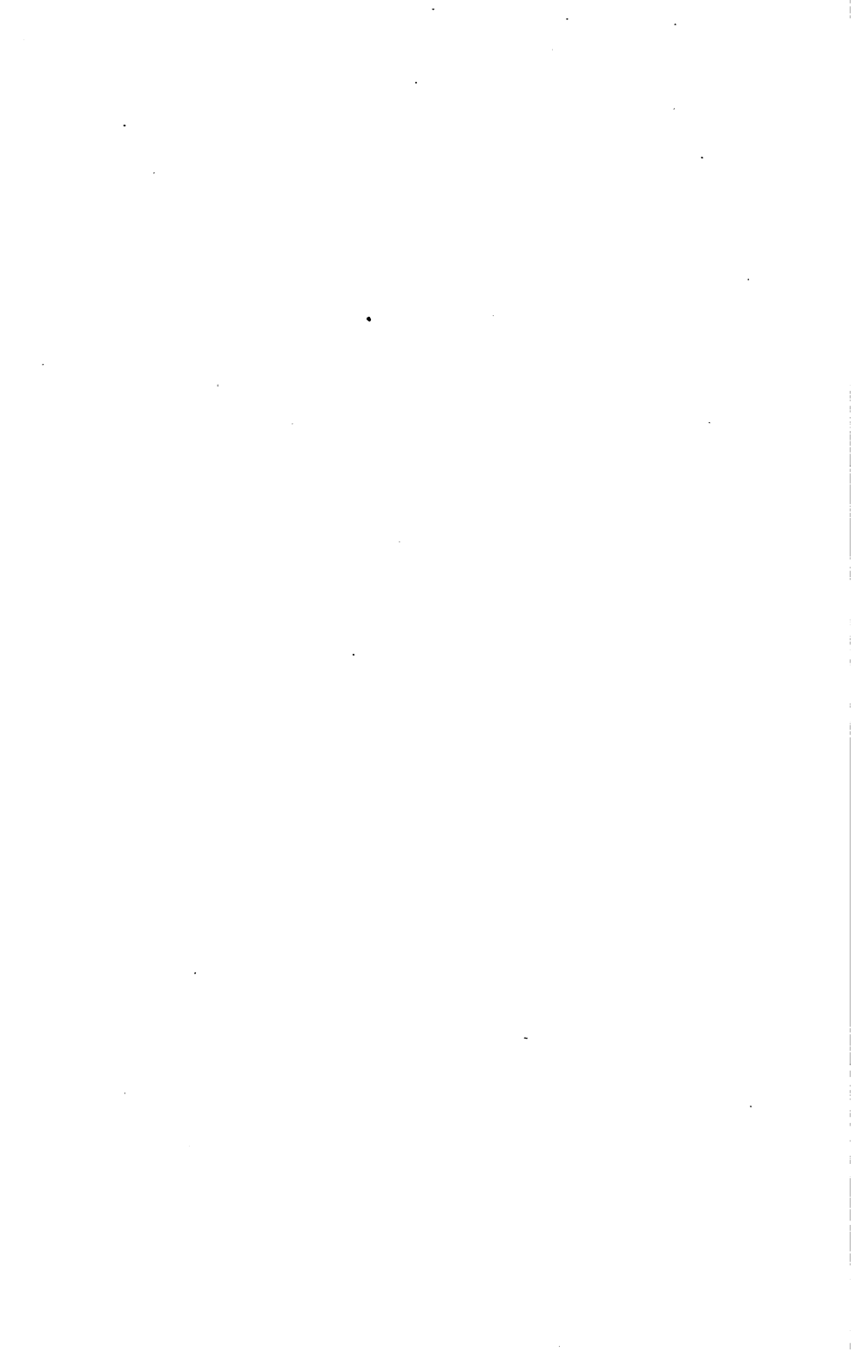
In both these cases the disease ultimately returned and proved fatal, bearing out what I have said, that operations for sarcomatous or cancerous growths in the nasal cavities are seldom permanently successful.

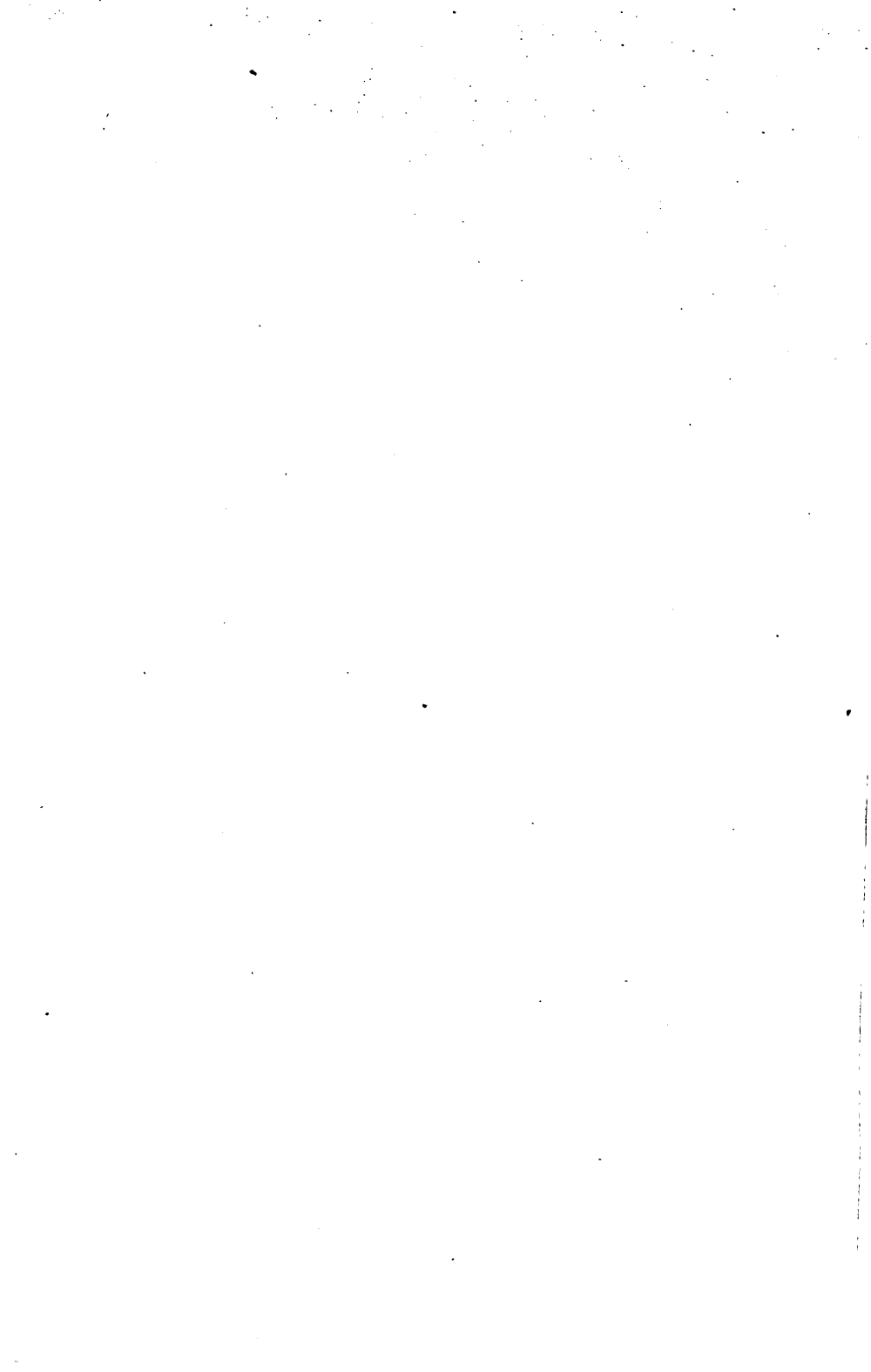
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